MEETING

BEFORE THE

CALIFORNIA AIR RESOURCES BOARD

BOARD HEARING ROOM

2020 L STREET

SACRAMENTO, CALIFORNIA

THURSDAY, MAY 21, 1998

9:30 A.M.

Vicki L. Medeiros, C.S.R.
License No. 7871

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

MEMBERS PRESENT

John D. Dunlap, III, Chairman
Joseph C. Calhoun
Dr. William Friedman
Mark DeSaulnier
Lynne T. Edgerton
Jack C. Parnell
Sally Rakow
Barbara Riordan
Ron Roberts
James W. Silva

Staff:

Michael Kenny, Executive Director
Tom Cackette, Chief Deputy Executive Officer
Mike Scheible, Deputy Executive Officer
Kathleen Walsh, General Counsel
Jim Schoning, Ombudsman
Bruce Oulrey, Ombudsman

I N D E X
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I N D E X (Continued)

I N D E X (Continued)

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P R O C E E D I N G S

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CHAIRMAN DUNLAP: The May meeting of the California Air Resources Board will now come to order.

I will ask the audience to rise as we follow Ms. Rakow's lead as we have the Pledge of Allegiance.

(Thereupon, all present recited the Pledge of Allegiance.)

CHAIRMAN DUNLAP: Thank you, Sally.

Will the Clerk of the Board call the roll.

MS. HUTCHENS: Calhoun.

BOARD MEMBER CALHOUN: Here.

MS. HUTCHENS: DeSaulnier.

BOARD MEMBER DeSAULNIER: Here.

MS. HUTCHENS: Edgerton.

BOARD MEMBER EDGERTON: Here.

MS. HUTCHENS: Friedman.

BOARD MEMBER FRIEDMAN: Here.

MS. HUTCHENS: Parnell.

BOARD MEMBER PARNELL: Here.

MS. HUTCHENS: Patrick.

BOARD MEMBER PATRICK: Here.

MS. HUTCHENS: Rakow.

BOARD MEMBER RAKOW: Here.
MS. HUTCHENS: Riordan.

BOARD MEMBER RIORDAN: Here.
MS. HUTCHENS: Roberts.
Silva.
BOARD MEMBER SILVA: Here.
MS. HUTCHENS: Chairman Dunlap.
CHAIRMAN DUNLAP: Here.
I would like to welcome you all to the Board meeting today. It is the first day of a two day meeting.
It is the Chair's view that today should move pretty smoothly, that is my hope. Mr. Kenny, we will count on you and the staff to see that that happens, because tomorrow we are anticipating a little bit of action.
I would like to remind those of you in the audience who would like to present testimony to the Board to please check in with the Board Clerk, Ms. Hutchens, and her team, which are to the left.
If you have a written statement, please give 20 copies to her.
The first Item on the Agenda today is 98-5-1, a Public Hearing to Consider Amendments to the Airborne Toxic Control Measure for Emissions of Hexavalent Chromium from Chrome Plating and Chromic Acid Anodizing Operations.
The Board adopted the Chrome Plating Reg in February of 1988. The Regulation has been effective in

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reducing emissions of hexavale and chromium from these plating sources by some 95 percent, and for smaller sources to more than 99 percent for the, excuse me, for the larger small sources at 95, larger sources 99 percent.

The Federal requirements, promulgated in January of 1995, now require a similar level of control for sources in the rest of the country.

The amendments presented today consolidate the State and Federal chrome plating requirements into a single regulation, while maintaining the public health protection goals of both regs.

The amendments also clarify and simplify many of the Federal requirements.

So, at this point, I would like to ask Mr. Kenny to introduce the Item and begin the staff's presentations.

MR. KENNY: Thank you, Mr. Chairman and Members of the Board. Good morning.

The proposed amendments to the California Chrome Plating Regulation are the culmination of more than three years of effort by representatives of the ARB, the districts, and particularly the South Coast and the Bay Area district's, the affected industry, the public and U.S. EPA staff.

As the Chairman has indicated, the U.S. EPA promulgated a new Federal regulation for chrome platers in January of 1995.

Chrome platers in California and throughout the country were required to comply with this regulation within one to three years, depending on the type of facility.

The U.S. EPA's action was taken in response to the Federal Clean Air Act amendments of 1990, which mandated that the U.S EPA develop and implement a nationwide air toxics program.

The Federal Chrome Plating was the ninth Federal standard issued pursuant to this program. In authorizing a national air toxics program, Congress recognized that many states already had existing air toxics programs and included a provision that allows states to submit alternative rules or programs to substitute for the Federal requirements.

In general, the criteria used for approval is that the alternative requirements must be no less stringent than the Federal requirements.

The promulgation of the Federal Chrome Plating Regulation in January of 1995 made chrome plating sources in California subject to both Federal and California regulations.

To avoid the duplicate requirements, we initiated an effort in June of 1995 to determine what changes could be made to the existing California regulation to make it equivalent to the Federal regulation.

As both regulations were similar in the level of

control, and the Federal regulation was largely based on the success of the California regulation, we thought that the consolidation of the two into a single regulation would be fairly easy.

Unfortunately, it proved to be less easy than we had anticipated. In fact, it has been a long and often frustrating progress.

I do not think that any one involved in the process is completely satisfied with what we are presenting today.

The ARB and the districts believe that some requirements which U.S. EPA maintains are essential for approving this rule as a substitute for the Federal regulation are unnecessary given the air pollution control infrastructure in the State of California.

Industry remains concerned about the complexity of the regulation and the necessity of the extensive record keeping and reporting requirements.

U.S. EPA is concerned that providing flexibility may not result in achieving the emission reduction goals of the Federal Regulation.

One thing we have learned is that the process for integrating State and local regulations with the Federal requirements needs to be overhauled. It simply doesn't work as it is.

We are continuing to pursue these changes through

our Title 3 efforts, but the results of these efforts are longer term.

As we pursue change, sources remain subject to both State and Federal requirements. Rather than continue to have industry subject itself to two sets of regulations, and because we believe that we could significantly simplify and clarify the Federal requirements, we have moved forward with proposed amendments to the California Chrome Plating regulations.

While not completely satisfactory, we do believe this proposed amended regulation does two important things.

First, it maintains the emissions reduction goal of both the State and the Federal regulations, and second, it provides a consolidated regulation that is much easier to understand and more streamlined than two separate regulations.

Please note that we are proposing that these amendments be adopted as an emergency regulation.

This is because the compliance dates for the Federal regulation have passed, and chrome platers in California are currently subject to two sets of regulations.

By adopting as an emergency regulation, we can expedite the submittal process to the U.S. EPA.

At this time, I would like to introduce Ms. Lisa Jennings, of the Stationary Source Division, who will make

the presentation.

Ms. Jennings.

MS. JENNINGS: Thank you.

My name is Lisa Jennings. I am an Air Pollution Specialist, with the Stationary Source Division.

Good morning, Chairman Dunlap and Members of the Board. Today we are presenting the proposed amendments to the Hexavalent Chromium Airborne Toxic Control Measure for Chrome Plating and Chromic Acid Anodizing Operations for your consideration.

This is the Chrome Plating ATCM.

Today's presentation will cover the background and the purpose of the Chrome Plating ATCM, staff's outreach efforts, the proposed amendments to the Chrome Plating ATCM, additional suggested changes to improve the regulation and staff's recommendation to the Board.

Following identification of hexavalent chrome as a toxic air contaminant, the Board adopted the Chrome Plating ATCM in February of 1998.

The Chrome Plating ACTM applies to hard chrome, decorative chrome and chromic acid anodizing facilities.

In general, chrome plating provides wear and corrosion resistance to parts. Hard chrome plating is thicker than decorative chrome plating.

Parts that are hard chrome plated include

hydraulic cylinders and industrial rolls. Parts that are

decorative chrome plated include bicycle parts, auto trim, faucets and tools.

Chromic acid anodizing forms a chromium oxide layer that resists wear and corrosion on products such as aircraft parts.

Chrome plating operations in California have typically achieved at least 99 percent reduction in chrome emissions and have been achieving those reductions since the early 1990's.

This regulation affects approximately 300 facilities in California.

In January 1995, the United States Environmental Protection Agency promulgated a Federal regulation for chrome plating operations.

As a result, chrome plating operations in California are now subject to both the State and Federal regulations.

The Federal regulation requires controls similar to those used in California and reduces chrome emissions 95 to 99 percent.

Since sources in California are subject to two similar regulations, we have worked with U.S. EPA for three years to integrate the Federal and State requirements so that U.S. EPA can approve the State regulation as the replacement

for the Federal regulation.

This has been a difficult and time consuming

process and has highlighted many problems in the equivalency process for integrating State and Federal requirements.

In March, the Board recognized these difficulties by approving a Resolution calling for U.S. EPA to provide greater flexibility to the states to effectively integrate the State and Federal programs.

While we have reached an understanding with U.S. EPA on this regulation, we are continuing our efforts to seek a comprehensive solution.

The purpose of amending the Chrome Plating ATCM is to consolidate the State and Federal requirements into a single regulation, thus eliminating duplicate requirements and providing certainty to industry.

The amendments were designed to simplify and streamline the many Federal requirements that we have incorporated.

We have tried to develop a consolidated regulation that U.S. EPA can and will approve.

Most importantly, staff has developed a consolidated regulation that maintains the environmental benefits of both the State and Federal regulations.

For example, we have incorporated the Federal requirements from decorative chrome plating operations that

are more effective than the existing State requirements.

This action is consistent with our longstanding commitment to achieve any quantifiable emissions reduction

from the Federal Air Toxics Program.

Staff began discussions with District U.S. EPA Region 9 and industry representatives, in June of 1995, and have conducted an open interactive process throughout using the District and industry workgroup and numerous individual meetings with interested parties.

We held our first two public workshops in November of 1996, and a third public workshop was held in February of 1998.

We conducted over 30 meetings, specifically with U.S. EPA, to address equivalency issues, and we have submitted to them two draft chrome plating regulations.

Finally, we have notified over 400 individuals about this Board item. The proposed amendments to the Chrome Plating ACTM include changes in the areas shown on this slide, applicability, standards, compliance assurance measures and other requirements.

The original Chrome Plating ACTM applies to hard chrome, decorative chrome and chromic acid anodizing operations.

We are proposing to expand the applicability of the Chrome Plating ACTM to include trivalent chrome operations

because the Federal regulation includes them.

The emission limitations are divided by process, hard chrome, decorative chrome and chromic acid anodizing and decorative chrome using trivalent chromium.

We have retained the State's standards for existing hard chrome plating operations. We have established standards for new and modified hard chrome plating operations that are slightly more stringent than for the existing operations.

We incorporated an alternative compliance option available on a case by case basis for very small hard chrome plating operations that allows existing hard chrome plating operations to avoid costly add-on control equipment.

We have incorporated the Federal standards for decorative chrome plating operations which, as I mentioned before, are more effective than the State standard, and we have incorporated the Federal standards for chromic acid anodizing and for trivalent chrome operations.

To make this regulation acceptable to U.S. EPA, we have had to incorporate many additional compliance assurance measures in the areas shown on this slide.

When we initially began the process to integrate the State and Federal regulations, we believed that very few amendments needed to be proposed, while the ATCM may not have specified every requirement, we believe that the regulations

were nearly equivalent because field studies indicated high compliance rates and sources were subject to compliance assurance measures through district rules and district operating permit conditions.

However, we found that comparing the State and the

Federal regulations was much more difficult than we thought.

As a result of lengthy discussions with U.S. EPA, we eventually agreed to the minimum compliance assurance measures that U.S. EPA would accept to find the State and Federal regulations equivalent.

These agreements form the basis for the proposed amendments for the compliance assurance measures.

We have also added provisions to the proposed amendments to address two technologies that the Federal regulation does not address, and we have added a section that addresses approval for alternative requirements.

Since releasing the proposed amendments, we have identified several areas where additional changes are appropriate.

These additional suggested changes are listed on a handout that you should have. Additional copies are available at the back of the room.

The most significant change is in section K, the section that addresses approval for alternative requirements.

With these changes, U.S. EPA has indicated in a May

fifteenth letter that they believe that the proposed regulation can be approved to replace the Federal regulation.

We agreed to make the changes to simplify the equivalency process, and because the U.S. EPA letter also indicates that U.S. EPA expects to delegate the authority to prove alternatives for many of the provisions in the near

future.

U.S. EPA also commits, through a memorandum of understanding, to approve or deny submitted alternative requirements within 45 days.

This is the first indication we have had that the U.S. EPA is willing to delegate any authority to the states and to act within shorter specified timeframes.

We recommend that the Board approve the Chrome Plating ATCM with the additional suggested changes.

We also recommend that the Board approve the Chrome Plating ATCM as an emergency regulation. You should have a copy of finding of emergency regulation.

We need this because the chrome plating operations are subject to two regulations, and U.S. EPA will only review and approve an adopted regulation as a potential replacement for the Federal regulation.

By approving the Chrome Plating ATCM as an emergency regulation, we will be able to submit the regulation to U.S. EPA immediately.

Upon U.S. EPA approval, chrome plating operations in California will be subject to only one regulation.

Thank you. This concludes my presentation.

CHAIRMAN DUNLAP: Very good. Thank you.

Mr. Oulrey, from the Ombudsman's Office, is there anything that you want to add, or do you want to talk a bit about the process that this went through to get to the Board?

MR. OULREY: Good morning, Mr. Chairman and Members of the Board.

As you have heard, the item before you, 98-5-1, has been under development since January of 1995, when the U.S. EPA promulgated its Federal Chrome Plating regulation.

Emission control requirements in that regulation were similar to those adopted by the ARB in its 1988 Chrome Plating Control Measure.

The proposal that you have before you amends ARB's existing Chrome Plating Air Toxics Control Measure to expand the applicability to trivalen chrome operations in addition to the currently regulated hexavale chrome operations.

The proposal also differs from U.S. EPA's Chrome Regulation in that the recordkeeping and reporting requirements are streamlined and less prescriptive.

The primary stakeholders involved in the development of the proposal have included the U.S. EPA, the Metal Finishers Association and its members and several

California air districts, namely the South Coast Air District and the Bay Area District, which have the largest number and greatest concentration of chrome plating facilities.

The process used in the proposal before you included over 30 correspondences with the U.S. EPA since July of 1995, and three public workshops between November of 1996 and February of 1998, one in Sacramento and one in the South Coast in November of 1996, and one in the South

Coast in February of 1998.

Workshop notices and copies of the proposed amended Chrome Plating Control Measure were provided to more than 400 individuals, including approximately 300 chrome platers throughout the State.

As you have heard, or as you will hear, or actually you did hear from staff, the U.S. EPA has a letter on file giving its preliminary approval of the measure.

In the opinion of the ARB's Ombudsman's Office, the process used by the ARB staff and the development of this proposal was open and inclusive and did a good job involving and documenting the involvement of stakeholders.

Thank you.

CHAIRMAN DUNLAP: Thank you, Mr. Oulrey.

Any questions of staff on this item?

Any letters or any other types of correspondence, staff, do you want to summarize for us?

MR. VENTURINI: Mr. Chairman, Bob Fletcher, a Manager of the Emissions Assessment Branch will summarize.

I think there are three or four letters that were submitted.

MR. FLETCHER: We do have four letters that we received, as Ms. Jennings and Mr. Oulrey indicated.

The first one is a letter from the U.S. EPA, dated May fifteenth, and it indicates that the staff expects that the U.S. EPA will be able to approve this package as

equivalent. They, of course, have to go through their formal process first.

It does for the first time indicate that they're willing to delegate. They believe that the inclusion of U.S. EPA as a concurring agency in the regulation is temporary because they expect to delegate many of the authorities that are outlined in that regulation, and they are willing to approve any request for an alternative that has been submitted and recommended for approval by a State or local agency within 45 days.

The second letter is from the Bay Area Air Quality Management District, dated May eleventh, from Ellen Garvey, and indicates that they appreciated the opportunity to participate with us in the process and support the amendments.

The third letter is a letter from Barry Walerstein,

dated May twentieth, of the South Coast Air Quality Management District, again, indicating they appreciated the opportunity to participate with us, and they support the adoption of the regulations.

The final letter that we received this morning is from the Metal Finishing Association of Southern California, who applauds our efforts to eliminate duplicate regulations and to simplify and clarify the Federal requirements.

They indicate that there still remains provisions that they don't believe are necessary to ensure compliance,

but they appreciate ARB's efforts to minimize the burden of these Federal requirements and realize that we are proposing amendments that represent the minimum requirements the U.S. EPA would accept.

They also comment that the process for integrating the Federal and State requirements is far too long and encourages ARB to seek a more expeditious way to integrate these requirements.

Finally, they had a number of specific comments on the regulation. The first one having to do with several definitions in the regulation where they ask us to basically eliminate some clarifying language in those two definitions.

These basically are definitions that are descriptive and provide the reader with an indication of the types of operations the decorative and hard chrome plating

operations are involved with.

Determinations of whether you are a decorative plater or a hard chrome plater are generally made on a case by case basis.

In any case, we are not recommending that these definitions be modified.

The second comment is to add a clarifying language of controlled emissions in several parts of the regulations, which we agree with and would support that as a proposed 15 day change. It simply helps clarify the meaning of the regulation.

The next comment has to do with allowing a hard chrome plating tank to comply by the use of a fume suppressant, which is basically an additive to the tank itself.

Our ATCM's require collection systems for all hard chrome plating tanks. We have provided an option for small facilities that allow the use of this option in both State law, and the ATCM provide for alternatives provided they achieve the same emission benefits, so we don't believe that it is necessary to include it in the regulation.

There is provisions within the regulation and State law, as I mentioned, that would allow a facility operator to come in and request an alternative if they can demonstrate that it achieves equivalent emission reductions.

The next comment asks us to include a footnote to clarify some options in a table. We agree with this, and we would propose that we would identify exactly what those options are.

The tables basically list two options, and it doesn't identify on the table specifically what those options are, so we would propose to add two footnotes to those tables.

The next comment has to do with the man power limitation that applies to new and existing hard chrome tanks.

Basically, we had a typographical error. It read

five million instead of 500,000, so we had already proposed to make that change.

Finally, there is a provision in one of the sections that deals with alternative requirements for hard chrome tanks.

They believe that it should be taken out. Where it is, it applies to specifically very small hard chrome platers, and it is sort of a unique provision that applies specifically to small hard chrome platers.

The commenters would ask that we would extract that from that section and make it generally applicable to all hard chrome platers.

We are not proposing to do that because there is,

as I mentioned before, alternative to Section K that provides for alternatives for any facility providing they can demonstrate that equivalent emission reductions are included, and this is a unique provision that applies specifically to the small hard chrome plating tanks.

Finally, they have asked us to get comments from electrolyzing if we had not already done so. We received the letter this morning, and I am not aware of any comments from electrolyzing, and we simply have not had an opportunity to call them to find out what comments that they may have had.

That is all of the comment letters that we received on this measure.

CHAIRMAN DUNLAP: The Metal Finishers letter that

you just went through, when did you receive that, today?

MR. FLETCHER: This morning.

It's dated May eighteenth, but it was sent by regular mail, so we received it this morning.

CHAIRMAN DUNLAP: I appreciate you running through that.

I know that is always a challenge the morning of the Board meeting.

I ran into Mr. Fletcher here late last night, so I can attest that he was working hard on this.

Would you make sure you get back to the Metal Finishers, if they are not here today, and talk to them about

the action that we took and the fact that you've agreed to some 15 day change items, and let them know about that?

MR. FLETCHER: Yes.

CHAIRMAN DUNLAP: Okay. I had a question.

If I am thinking about starting a chrome plating business, and I want to get a permit, with this fast track item that we are taking to everything, where am I going to go to get it?

The individual air district, correct?

Do I have to have any interaction with the, Peter, with the Feds, or with us, as long as they have enacted the measures as we have outlined it, correct?

MR. VENTURINI: Yes.

That's my understanding. Since we are asking the

Board to do this as an emergency regulation, once we do that, this regulation then would be applicable so sources then could rely on this.

CHAIRMAN DUNLAP: It would be the locals that would be moving the paperwork and go through the review and all of that, so it would be one place to go, correct?

MR. VENTURINI: Yes.

CHAIRMAN DUNLAP: All right. Very good.

Any questions of staff by the Board?

BOARD MEMBER CALHOUN: Are all of the proposed changes included in Attachment B?

MS. JENNINGS: All except for the one's in the letter that we've agreed to.

CHAIRMAN DUNLAP: Well, what I think we will do, Kathleen, when we take up this Resolution in just a moment, I will ask you to just add, if you've tracked it, those inserts so the Board can note those, okay?

MS. WALSH: Okay.

CHAIRMAN DUNLAP: If there are no other questions --

By the way, no one signed up to testify, as I understand it.

All right. I will now close the record on this Agenda item. However, the record will be reopened when the 15 day notice of public availability is issued.

Written or oral comments received after the hearing

date or before the 15 day notice is issued will not be accepted as part of the official record of this Agenda item.

When the record is reopened for a 15 day comment period, the public may submit written comments on the proposed changes, which will be considered and responded to in the final statement of reasons for the regulation.

Also, we need to disclose any ex parte communications. While the Board may, of course, communicate off the record with outside persons regarding Board rulemaking, we must disclose the names of our contacts and

the nature of the contents on the record.

This requirement applies specifically to communications which take place after notice of the Board hearing has been published.

Are there any communications that the Board needs to disclose?

All right. None.

We have before us Resolution 98-19, in the package. The Chair would entertain a motion to approve, but what I would like to do, approve with those items mentioned, the staff's agreed to on a 15 day window, I would like those covered.

MS. WALSH: Correct.

Do you want me to do that now?

CHAIRMAN DUNLAP: Is there a motion and a second?

BOARD MEMBER FRIEDMAN: I move that we accept this

with the -- I move approval with the inclusion of the comments made in response to the Cunningham letter, which was just discussed a moment ago.

BOARD MEMBER RIORDAN: I second the motion.

CHAIRMAN DUNLAP: All right.

Ms. Walsh, do you want to add those Metal Finishers items?

MS. WALSH: What will happen is we have the attachment to the Resolution, which includes the

modifications that staff described in their presentation.

Those will be, again, revised to include the two changes that staff has agreed to in response to the comment letter that is adding the reference to controlled emissions in the one section and adding the footnote that will clarify the options and that language will be included in that Attachment B, which will go out as part of the 15 day package for comments.

CHAIRMAN DUNLAP: All right. Very good.

Any discussion we need to have before voting on Resolution 98-19?

Okay. We will proceed with a voice vote.

All those in favor of adopting Resolution 98-15, with the 15 day notice items we just covered, please say aye.

Any opposed?

Very good. Thank you, staff, appreciate that.

Mr. Fletcher, thank you for your long hours.

Okay. Let's move to the next item, 98-5-2.

Again, I would like to remind those in the audience who would like to provide testimony or any written comments to please check in with the Clerk to the Board and provide the 20 written copies, if you would. We would appreciate it.

The next item is a Public Hearing to Consider Amendments to the Ethylene Oxide Airborne Toxic Control Measures for Sterilizers and Aerators.

The Board adopted the regulation for ethylene oxide sterilizers and aerators in May of 1990. The regulation requires most operators of these sterilizers or fumigation processes to reduce the emissions of ethylene oxide by at least 99 percent.

The staff is proposing the amendments to update and approve implementation of the reg, and in addition EPA has promulgated a Federal regulation that will affect new large sources that are already covered by the State regulation.

As with chrome plating, the staff is proposing to consolidate the Federal requirements into the State regulatory package.

So, with that, Mr. Kenny, we will have you, again, introduce this item.

MR. KENNY: Thank you. The staff is proposing several technical amendments to the Ethylene Oxide Sterilizer and Aerator Regulation.

These amendments result from experience gained

during implementation of the Regulation and generally involves streamlining and improving the compliance testing requirements, adding provisions for a new control technology and clarifying and improving several miscellaneous provisions of the regulations.

These amendments have no effect on the emission reductions associated with the Regulation. In addition, the

U.S. EPA adopted a Federal Regulation in December of 1994 that affects six facilities in Southern California that are also covered by the State Regulation.

The Federal Regulation will become effective in December of this year. We are proposing amendments to the State Regulation to incorporate and simplify the Federal requirements.

In general, the Federal Regulation has similar control requirements but has substantially more compliance assurance measures.

As with the Chrome Plating Measure, we are not completely satisfied with what we are proposing, but weight that the Regulation is the minimum that the U.S. EPA will accept to approve the State Regulation as a substitute for the Federal Regulation.

In this way we will maintain the more stringent limitations in the State Regulation and avoid duplicate regulatory requirements.

In developing the amendments, the staff has worked

with districts, affected sources, control equipment manufacturers, testing consultants, U.S. EPA and others.

At this time, I would like to ask Mr. Ronald Walter, of the Stationary Source Division, to provide an overview of the proposed amendments.

Mr. Walter.

MR. WALTER: My name is Ronald Walter. I am with the Stationary Source Division.

As Mr. Kenny mentioned, this hearing is to present to you the proposed amendment to the Ethylene Oxide Airborne Toxic Control Measure for Sterilizers and Aerators.

During today's presentation, I will cover these topics, the background --

CHAIRMAN DUNLAP: Mr. Walter, if we could get you to speak up a little bit.

Just pull that thing a little closer to you. I know it's awkward.

Thank you.

MR. WALTER: During today's presentation, I will cover these topics, the background of the ATCM, the purpose and staff outreach, our proposed amendments, additional changes, issues that have come up and our recommendations.

In 1987, the Board identified each of the toxics air contaminants. Following identification, we initiated controls, which indicated that virtually all of the ATO's in California for sterilization or fumigation processes.

We worked with the operators, with districts and sterilizer control device manufacturers to develop an Airborne Toxic Control Measure, which the Board adopted in November of 1990.

ATCM affected over 300 facilities and have achieved

at least 99 percent reductions in ATO emissions from most sources since 1992.

There have been some significant events that have occurred since the implementation of the ACTM.

First, controls to recover ATO's were installed in California to meet the ACTM requirements. There are now about a dozen of these systems currently in use in California.

Second, the U.S. EPA promulgated the regulation of six large commercial sterilizers in California. The Federal standard has emission standards similar to the ACTM, but less stringent, however, has added significantly more compliance assurance measures.

The Federal requirement becomes effective in December of this year. We are proposing the amendments to streamline the test procedures and incorporate criteria for reclamation systems to clarify and simplify requirements based on knowledge gained during implementation of the Regulation and to integrate the Federal requirements and the State requirements into a single regulation so that the U.S. EPA will approve it as a replacement for the Federal

Regulation.

As with the Chrome Plating ACTM, and as indicated in the slide, we have had an extensive outreach effort.

We are proposing to amend in several areas. First,

we are proposing to change and modify the test method and to clarify and simplify the compliance determination.

In addition, we are addressing the integration of Federal requirements by separating the ATCM into two parts and incorporate a streamlined version of the Federal requirements for the large commercial sources.

I will now briefly cover each of these areas. We added a provision which allows the estimating of the amount of ATO delivered to the control system.

This is safer for the source testing personnel, achieves the same level of compliance assurance and reduces the cost of compliance testing.

We have also added a test procedure to determine the amount of ATO liquid discharge from reclamation systems as we found a significant amount of ATO discharge in the water.

We propose to add a limit on ATO liquid discharge from sterilizers and aerators to simplify compliance determination for reclamation systems, and we propose to add a combined sterilizer and aerator efficiency to provide this flexibility in compliance testing of control systems controlled on both the sterilizer and aerator.

As mentioned earlier, these proposed changes affects six facilities. We have integrated the Federal Regulation into the proposed amendments by eliminating

duplicate requirements and including more of the State and Federal monitoring requirements and incorporating definition to clarify the additional requirements.

Since releasing the proposed amendments 45 days ago, opportunity for improvement and corrections have come to our attention.

These additional suggested changes are included in Attachment B in your Board material and available at the back of the room.

The major change is the change in a definition of administrator. This change is at the request of the U.S. EPA and follows the same reason as presented in the previous Board item for chrome plating.

In the past few days we have received a written comment regarding safety issues related to the use of catalytic oxidizers, one of the available control technologies used to reduce ATO emissions.

In the large facilities, the sterilization cycle is complete and the majority of ATO's removed from the chamber, the door is opened and fresh air is introduced into the chamber to reduce the residual concentration of ATO in the chamber.

A valve at the back of the chamber simultaneously

opens the exhaust screen from the chamber. In our existing Regulation we have max amount of reduction of ATO by

requirement. This exhaust screen would be relative to a control device.

If the door is open before the sterilization cycle is complete, the valve would activate and expose a mixture of ATO to the catalytic oxidizer.

During the initial implementation of the Federal Regulation there were four explosions at facilities in other parts of the country primarily caused by operator error.

In six years of operating facilities in California there has been one explosion, which recently occurred in Southern California and was directly related to operator error.

We have discussed this issue with district and facility operators over the last year, and we have concluded explosions can be easily prevented if proper safety procedures are developed and followed.

We are aware of the injuries and want the U.S. EPA to continue to investigate this issue, and we will continue to follow this work. However, at this time we do not believe that amendments to our control measure to address the problems are necessary.

In conclusion, we recommend that the Board approve the addition of ethylene oxide ATO as presented with the additional changes summarized in your Board package on this

item.

Thank you. This concludes my presentation.

CHAIRMAN DUNLAP: Thank you. I appreciate the overview.

Any questions of staff before we hear from the Ombudsman, Mr. Lockette?

Bill, do you want to tell us about this regulatory proposal as it relates to the public process and how it came to come to us?

MR. LOCKETTE: Mr. Chairman, Members of the Board, as you have heard, this item calls for stricter standards but is more streamlined with less reporting requirements than the Federal standard for ethylene oxide.

The ARB staff worked with the U.S. EPA Washington, as well as California stakeholders. In early 1996, staff commenced, with U.S. EPA Washington, to seek approval of the airborne toxic control measure for equivalency to the national emission standard for hazardous air pollutants.

As you heard, ARB's outreach has been effective, as EPA staff has indicated that today's proposed amendments are likely to be viewed as acceptable to be enforced as a Federal requirement.

While the Federal meetings were taking place, staff was working with stakeholders by visiting 30 facilities, conducting and ensuring evaluations of some 20 facilities, mainly hospitals, testing and measuring actual emissions from

10 facilities and evaluating test data and reports from some 20 additional facilities throughout the State.

After the mailing of 800 notices to interested parties, there were three public consultations with affected parties.

Staff also worked with our sister agency, the Department of Toxic Substances Control, to evaluate and develop the water testing methods cited in the proposed amendments.

In summary, the Ombudsman's Office concludes that the staff's outreach work has produced substantial public participation by the various stakeholders.

CHAIRMAN DUNLAP: Thank you, Mr. Lockette.

Any questions of the Ombudsman?

We have two witnesses on the witness list. I ask the two witnesses to come forward and sit in the front row by Mr. Valdez, who will raise his hand and wave to show you where you go.

There you are. Cliff McFarland, from Griffith Micro Science, and Kathleen Steilen, also from Griffith Micro Science .

So, if could you come up, and if you are a tag team, you can both go up together, if you would like.

Good morning.

MR. McFARLAND: I think we'll do our presentation

serially. We are getting there.

CHAIRMAN DUNLAP: You indicate that you don't like this proposal?

MR. McFARLAND: In just one aspect.

The bulk of the proposal is a good proposal, but we have one suggestion with regard to it.

Mr. Chairman, Members of the Board, my name is Cliff Mcfarland. I'm an attorney representing the group of Micro Science, a commercial sterilizer that operates three plants in California.

I'm here today to talk about a safety issue related to this air toxics control measure. Together with the Ethylene Oxide Sterilization Association, we have submitted written comments on the safety issue.

The comments are bound, and I am going refer to a couple of the exhibits in here. I am just going refer to this package.

CHAIRMAN DUNLAP: You have a light on your podium there.

MR. McFARLAND: Thank you.

As you may know, the staff indicated this morning in its presentation, EPA suspended its own Ethylene Oxide NESHAP for one year, the maximum period allowed by law, as a result of five serious explosions that occurred at ethylene oxide plants beginning in June of last year.

EPA fears that these explosions were related to human error in operating the ethylene oxide emission control equipment.

Let me say at the outset that human error was involved in each of the five explosions. Human error is part of every industrial accident.

The reason that we are here is the downside of human error in this context can be catastrophic.

I would direct your attention to Exhibit H, in the bound package, on the third page of Exhibit H, at the bottom, EPA succinctly states its reason for suspending their rule in its totality for one year.

In July of 1997, the Agency learned of reports of explosions at ethylene oxide sterilization and fumigation facilities, and EPA does not want matters associated with the December of 1997 compliance date to possibly compromise safety; therefore the Agency is suspending the Ethylene Oxide NESHAP in its entirety for one year, until December of this year.

BOARD MEMBER EDGERTON: What page is that?

MR. McFARLAND: The third page of Tab H, at the bottom.

To give you a little bit of flavor with these incidences I would like to read from two newspaper accounts contemporaneous with the explosions.

The first is in Tab A. There was an explosion last June at a commercial sterilizer plant in Richmond, Virginia.

On June fourteenth, the Richmond Times Dispatch reported, an ear-splitting explosion and fire yesterday at an eastern Henrico plant that sterilizes medical supplies sent metal fragments shooting hundreds of feet in the air and forced the evacuation of scores of local employees.

The 12:45 p.m. explosion mangled a large section of the roof in a building occupied by Sterilization Services of Virginia. Miraculously, only one person was injured.

There was a second explosion in Elkhart, Indiana. Tab B, four pages back, starts with byline, Stacy Creasy, and it's datelined, Elkhart, Indiana.

About 60 yards from the damaged building, across a parking lot and on the other side of a six-foot chain-link fence, what appeared to be a crumpled sheet of aluminum foil in the tall grass, it was the back door to the Accra Pac facility.

Officials from six agencies explored the aerosol packaging plant trying to learn what sparked the blast Tuesday that killed one employee.

Authorities on Wednesday revised the number of injured workers to 76.

Griffith experienced a similar explosion at its facility in Los Angeles November twenty-eighth of last year,

when an operator mistakenly opened a door to a sterilization

chamber before the cycle was completed.

The accident report itself is contained in Tab I of the materials, and I would like to direct your attention to Tab J, which shows the photographs of the aftermath of the explosion.

As you can see, there are significant damage to the ducting that connects the sterilization chamber to the air pollution control equipment.

In the bottom two photos you see the ducting was ripped apart in one section and tossed 50 feet in one direction and another section was tossed 50 feet in another direction.

The part that is particularly scary is that if this ducting had not ripped apart, thereby allowing a mechanism for the explosive force to dissipate, the explosion would have propagated back into the building.

I think that, but for the grace of God, we probably would have had a fatality.

After learning of the explosions last summer, EPA recommended to the industry that they disconnect their emission control equipment, and less than three weeks after learning about the explosions, then Assistant Administrator, Mary Nickels, made a decision to suspend the Ethylene Oxide NESHAP for one year, the maximum period allowed by law, to

provide the EPA time to investigate the incidents.

Finally, I would like to direct your attention to

Tab L. EPA has been working with the Safety Subcommittee, or Trade Association of the Ethylene Oxide Sterilization Association, with regard to this safety issue over the last six months.

Tab L is a draft proposal that is still circulating inside the Trade Group and inside of industry, and it has not gone to EPA yet. We will get it out the first of June.

The Trade Group wanted to get it into this package that is in front of you, so it has been released a little bit early in draft form.

This is a proposal to modify the Ethylene Oxide NESHAP at the Federal level in a way that resolves the safety issue and will actually meet or possibly exceed the EPA's initial emission reduction goal.

The EPA has committed to give the proposal strong consideration and the proposal may form a basis for modifications to the Federal Rule.

The threat of similar explosions in the future is the single biggest safety issue facing the sterilization industry.

It's an issue that we take very seriously. Future explosions could result in additional fatalities. Future explosions could also affect the viability of the industry.

If this Board were to approach the issue in the same way as the EPA has, it would suspend the entire Ethylene Oxide Control Measure and direct staff to explore the safety

issues.

We don't believe this type of action is necessary, and we're not asking for anything along those lines. A second option would be to defer the adoption of these amendments today and study the safety issues, and again, we are not suggesting anything along those lines.

There are many provisions other than the one particular provision that we will talk about in a few minutes that we think should be adopted. So, we are not suggesting that.

What we would suggest is that the single provision that requires the back vents to be connected to the emission control equipment, and Kathleen Steilen will spend time on that, that that provision be suspended for a reasonable period of time to allow staff and industry to work together to study the safety issue and then make a recommendation back to the Board as to how to proceed, and a reasonable period of time, maybe six months, that's about the period of time EPA expects to make a decision.

We would like the opportunity to work with staff on the issue in the same constructive way that we are working with EPA on the issue, and we believe that together we can

solve the problem.

I would like to turn it over now to Kathleen Steilen, who is the Director of Environmental Health and Safety with Micro Science, and who also serves as the

Secretary of the Safety Subcommittee for the Trade Group, a presentation on more of the engineering aspects of this matter.

Thank you.

BOARD MEMBER FRIEDMAN: I have a question. I hope the issue will be addressed what industry proposes to study in the next six months as an alternative to the manifold back vents, quote, solution?

MR. McFARLAND: I think that is coming up.

MS. STEILEN: Hello. I'm Kathleen Steilen, the Environmental Health and Safety Director of Griffith Micro Science, who is a contract sterilizer.

We have, as of last month, a recent acquisition, 11 plants in North America. This is an issue not only in California for us but throughout the United States.

I'm also the Secretary of the Safety Subcommittee of our Ethylene Oxide Sterilization Association, which is a trade industry group who has been looking at this issue.

First, I do want to commend the California Air Resources Board in trying to streamline the process of taking the Federal Regulation, which does have some interesting

regulations, and there are some problems with meeting it, and trying to streamline that process for us, and I really do commend you for taking that effort for industry.

The only thing that I have a concern with is to make sure that we do address the safety issue associated with

this Regulation.

Today I am going to try and explain to you really what is the safety issue. It is a little bit of a technical issue, and I will try to go through what is the safety concern, and what is my concerns with the Regulations.

I am going to talk about EtO, or ethylene oxide, a little bit, describe our sterilization process and give you a summary of the recent explosions and try to explain them to the best I can, since I have looked at all four in a room, go through the one that occurred here in California in November of last year in LA, that was Griffith's, talk about EPA response and what we are doing with EPA, talk about what the industry has done and how we have been working with California to date, and then also talk briefly of some possible solutions to these safety concerns and what we are doing, and the proposal that I have for the Air Resources Board.

First and foremost to understand really what is the safety concern is that we are dealing with a very hazardous chemical, ethylene oxide, which is why the regulations are in

place.

It is recognized by our industry as a very efficient sterilization gas. We use probably less than one percent of all EtO used in all of industry though.

To put it in perspective, we are really a small group of the EtO business.

Ethylene oxide is very flammable and explosive. It is also a recognized carcinogen.

To get a perspective on the explosive, 100 percent is the upper explosive limit, and three percent, which is 30,000 PPM, we will get into that a little bit later, is the lower explosive limit.

Again, just as a reminder from a real basic scientific, is to have an explosion, you need a hydrocarbon, oxygen and then ignition source, and any flame or spark is an ignition source.

EtO is very easily ignited, a spark, just even scraping of doors, we have had explosions from opening one of our doors if you don't have a proper seal. It is very explosive.

A little bit about our process. Again, the sterilization industry contracts sterilizers. For the most part, there are a number of in-house sterilizers, too.

We take other people's products, mainly medical products, and sterilize them. Part of this, and I will go

through the next slides, is just, I will describe the process, the back draft valve, aeration rooms and emission control, just to get an idea of what we are talking about briefly.

First, here is our process. As you see, it is a very simple from a chemical perspective process. We have drumfulls of EtO hooked up to these stainless steel chambers

that are sealed and under pressure, or under vacuum, as well.

We have a product flow that goes into the sterilizers. All we do is put pallet loads of customers products, and it is mainly to the medical industry to make sure they are sterile before they go to the hospitals, or consumer use, and we put pallet loads of their product into our chamber, seal it up and run a specific FDA approved sterilization cycle, and then from the sterilizer itself we have the vacuum pump discharge, that is, after we inject EtO, we vacuum it out to empty the chamber and EtO from it.

There is a back draft valve, as Ron explained in his presentation, that's the rear vent valve.

The only purpose of that is when we open the door, that valve opens. When our operators open the door, and that is on there for an OSHA regulation because we have to keep worker exposure down, then we move the product into an aeration room, which is another control source, and we treat the aeration room vents.

Those are very dilute, low concentration streams. The one's from the chamber are high concentration EtO, except for those back draft valves. If all is going right, that's when they first open the door, we have already evacuated the EtO. That should be a low concentration stream.

That is a summary of process.

Just to put it in perspective, as far as how we typically treat these emissions is from the sterilizer

chambers, again, when the vacuum pump is a high concentration stream, typically treated from acid scrubbers, in the low concentration streams, what we have done, Griffith, in many of our facilities, probably a little unfortunately now, we have been typically sending those to a catalytic, or thermal oxidizer, so the low concentration streams would be in the back vent, and the scrubber is not an efficient means.

We cannot get even up to 99 percent efficiency on low concentration streams. On the high concentration, we get 99.9 plus.

So, we have to send the low to a thermal oxidizer to get the required efficiency. To put it in perspective for the emission breakdown of this process, the vacuum pumps, again, are the primary discharge from the chamber, from our estimates, and they are estimates, we estimate about 95 percent of all the EtO emissions go through the vacuum pumps into that scrubber, and we get a 99.9 plus percent

efficiency.

The aeration, the low concentration streams from the back vent and aeration rooms together make up the remaining five percent.

Most of them are from the aeration vents, and remember that's in the room where we allow any product. The product absorbs EtO.

Especially in the use of disposable plastics right now, they absorb all of the EtO, and then in the aeration

room we allow it to sit for hours, or days, whatever it needs to, to allow that EtO to come off. So, 4.8 percent of them come off in the aeration.

This back vent stream, which is, again, what we have to keep the EtO away from our workers who still enter with masks on, but for worker safety we estimate that as about .2 percent of the EtO emissions.

Again, on the back vents, the real concern from the back vents is that it's .2 percent of the emissions, but those are the one's that have been causing the concern for our industry, because what happens if there is an operator error, it will open up when there is a high concentration and send it to an open flame abater, which the first thing it sees is a flame.

That's where the safety concern has come in.

Let me just summarize the four incidents that

occurred in June and July of last year. The first one was Sterilization Services, or SSP.

It was an explosion that occurred during the installation testing. They had installed a catalytic oxidizer to control, just as we had, I showed before, the aeration in the back vent, emissions from their process.

They just installed this, and they were doing testing of it when the explosion occurred. Again, there were no serious or long lasting injuries.

There was some serious property damage, and they

did have some extended down-time of months before they could get back into operation. That was the first one.

The second one in our industry, and these are just fellow competitors, members of the Ethylene Oxide Sterilization Association, is PCS, that is the Massachusetts one.

Again, it was an EtO explosion involving a catalytic oxidizer with back vents. This occurred right after installation when they were doing some testing on it.

So, it was somewhat in test mode, but again, the Fire Marshall's report from there does state that the catalytic oxidizer was the cause of the explosion.

Operator error, obviously, did help send the high concentration stream to the catalytic oxidizer, because that is not the normal operation, but again, we are lucky, no

injuries resulted, some serious property damage.

In that particular, in both of these, the fire ball went back to the chamber and blew apart the chamber. So both of these had some serious down-time.

These are the other two. These are somewhat industry related. These are not direct competitors. These are what we call packagers.

What they do is they repackage the EtO, and they put it in these little sterilizers, capsules, or little bombs that are used in the small sterilizers in hospitals.

So, they just repackage EtO. But from their gas

room to control emissions, both of these were using an oxidizer there to control emissions. So they are somewhat related.

The most serious one in my opinion is the Accra Pac one, which is the one that happened in Elkhart, Indiana, where there was a fatality.

It was an explosion with a fire ball that occurred in the gassing room where they were filling those little containers.

This particular place does have several safety monitors. They have LEL alarms throughout. They have interlocks into the system that were in operation at the time.

I think if you look through some of the reports

from the papers, what had happened is that the operator silenced those alarms and continued operation, which eventually sent an explosive mixture to the catalytic oxidizer.

This is still being very much investigated. There have been no reports out of it, and it's just really from people that I know in the industry that we found that.

IKI is a repackager. It is a very similar incident.

It has a gas room. The gas room in both of these and the oxidizer were damaged. The buildings were totally destroyed.

Little is documented on the IKI one, which occurred in Wisconsin. That is the summary of the recent one's.

Let me spend a little bit of time on one that I know the most, the one that occurred in November of 1998, at our own facility at our LA plant.

And again, an operator error. He opened the wrong sterilization door when it wasn't a sterilizing product. As the door opened, we do have a nitrogen blanket over the EtO in the sterilizer as a safety precaution, it sent this EtO nitrogen mixture through the back vent to the abater.

It did mix with an oxygen stream. The abater flame ignited the combined vent. It did rupture, as you have seen pictures in one of the Tabs there, but luckily the venting

blew apart. No fire ball or pressure pulse went back to the chamber.

Really relatively little damage was done from what could have resulted there. It blew apart the venting. It damaged the oxidizer.

It still cost a fair amount, but we were back in operation and had not injured any one within a week, so, we were very, very lucky.

This shows a little bit of a summary of what happened. The back vents from the chambers is the high EtO source.

It mixed with the oxygen from the aeration room, which is, you are talking probably about 10 to 20 PPM levels

of EtO in an air mixture.

That sent to, again, the first thing past that it sees in our catalytic oxidizers is an open flame and that sends a pressure and explosion pulse back.

I don't have to go into great detail, but some of the corrective actions that we have taken from this incident, as I have with all of the incidents that I have investigated here, is to disconnect the back vent at this point from all plants of concern until safer emission controls are installed.

We are in the process, as I said, we have got 11 facilities in North America, and we want to make sure any of

those that are going to a catalytic or thermal oxidizer, we are trying to disconnect the back vents if there are safety concerns.

As you see, we have gone through the various processes. Unfortunately, we did have an explosion occur before we were able to do this.

We have gone through the various processes and have disconnected the back vents in the LA facility, and we are in the process of doing it, we have one in Ontario, California, as well.

There are other precautions that we are taking as Griffith Micro Science, and in the industry, to make sure that we have safe operations with catalytic and thermal oxidizers.

These are some of the alternative controls, and we are also studying, if we decide to continue with the catalytic and thermal oxidizer, what type of safety interlocks are efficient enough.

CHAIRMAN DUNLAP: Ms. Steilen, in conclusion, what would you have us do?

MS. STEILEN: In conclusion, I would like to see California to continue to work with us, as EPA, and suspend the use of that back vent, only the back vent in this regulation.

CHAIRMAN DUNLAP: Okay. Let me, if I may, I will

ask staff, what is the emissions impact of not installing the back vent?

MR. POPEJOY: Essentially, disconnecting the back vent valve would double the emissions.

CHAIRMAN DUNLAP: Take it from what to what?

MR. POPEJOY: For one of Griffith's facilities, for instance, it would take, our estimate is 400 to 800 pounds a year of ethylene discharged to the atmosphere.

CHAIRMAN DUNLAP: All right.

Anything else that you would like us to know?

MS. STEILEN: No, except for that EPA is continuing to work with it, as you see.

I commend the effort of trying to work with EPA and streamline these, and I do commend that strongly, but EPA is considering changing the regulation you are kind of

streamlining right now as a moving target.

Thank you.

CHAIRMAN DUNLAP: Well, one thing I should acknowledge, I think the primary purpose, it seems to me of your business and the folks you represent, is to protect public health ultimately by having this equipment sterilized so it works well and people don't get infections or diseases as a result of using unsterilized equipment, so I appreciate your mission, too.

Supervisor Silva.

BOARD MEMBER SILVA: I have a question.

You mentioned the one explosion happened because the alarm was, did you say, disconnected?

MS. STEILEN: The alarm, and this, again, is from the newspaper articles, so the accuracy I question, I have not been into that particular facility.

I have been to the facility as a consultant, as a prior life here, and I know they do have LEL monitors and detectors, and from the account in one of the newspaper articles is that the LEL alarm in the interlock had gone off, meaning that it stopped, it stopped the actual filling of the bottles, the LEL activated the interlock and said, something is wrong, we have a high concentration here, shut down.

The operator came in and silenced it and restarted the operation, is what from there, I think, occurred, because they do have the interlocks.

CHAIRMAN DUNLAP: Maybe ask your colleague to come forward, too, what, back to Dr. Friedman's question about, I mean, surely you can understand, as a regulatory body, a lot of people come here and say, you know, we need more time, we need you to study this more, you know, it's something that we hear fairly frequently.

His question was, and I think it is a relevant question here, what would you have us study or do during the six month delay or whatever time period you are talking

about, specifically?

What can we do to feel good about any kind of a delay or this exemption that would result in doubling the emissions here?

MR. McFARLAND: On the Federal side, they suspended entire rule.

Right now, the proposal that we are floating back to EPA, in Tab L, is a proposal that will allow the back vents to be disconnected and will achieve greater emission reductions from one of the other streams so that EPA will end up getting the same amount of emission reductions as they had wanted in the beginning but with the back vents disconnected.

We would like to have a period of time to work with staff to try to explore how we can get something similar in the State level.

That means that it is going to be harder in California because the efficiencies are set higher than the

Federal level, but it is something that I think we have to work together, and we think that maybe a six month period, which is the period left before the EPA goes final.

We can report back to the Board in, say, six months as to what the conclusions are. We don't have an engineering solution to offer to you today the way we do have a solution to offer to the Federal EPA.

CHAIRMAN DUNLAP: I want to commend you on your

package and presentation and a very fine presentation.

A lot of thought went into it, and I appreciate you sharing with us, you know, your investigating these things, trying to understand them, and it seemed to me that you provided us here with the background about what you knew and what you didn't, which I appreciate the even-handed nature of that.

Well, let me ask staff, Mr. Kenny, let me try to summarize what I am hearing here.

There is a public safety issue that the experts here in the industry claim should kind of override the emission reduction goals that we have in the near term because people could get killed or maimed potentially.

Not all of those four incidents were conclusive relative to a consistent theme, which means there is some user error, as Mr. Silva pointed out, and the like.

How do you react to that, Mike, what is your counsel to the Board?

We pay you guys to get the emission reductions down. That's your job, you know, and I think you put together a package that will do that, but balance this for us.

MR. SCHEIBLE: Well, actually I would like to answer this question, because I would like to address the technical issue a bit more.

One of the concerns that we are wrestling with here, I think, is the fact that we are hearing this really at somewhat of the last minute from these people.

That doesn't diminish the fact that they are raising a safety concern. We did know that there were some safety issues associated with ethylene oxide sterilizers in the past, and when there were some initial explosions we did an investigation to see whether a similar potentiality would exist in California.

As we look at what they are proposing today, and as Mr. Popejoy indicated, we would see a doubling of the emissions of ethylene oxide.

What that translates to is an increased cancer risk. We are in a situation which we disable the back drafts and have an increased cancer risk associated with the ethylene oxide, or we can leave them in place and continue to try to address the safety issues through the existing processes while the safety risk is out there.

I guess I need to understand a little more as to

how these particular accidents occurred, and what is being done to address what sounds like the human error that may have been associated with them.

CHAIRMAN DUNLAP: Well, the other -- by the way, good presentation, but we are getting it kind of late, you know.

We like some of things worked out with the staff and with advocates before we get here so that we don't have to sort through it all here, though we're willing to.

I think you need to respond to that, but I will let Dr. Friedman go.

BOARD MEMBER FRIEDMAN: Well, I just have a specific question.

I want to make sure that I understand, do you not think that the back vent manifolding to the emission device is going to enhance the safety to some degree?

MS. STEILEN: Do I think it will enhance safety?

No, not to an open flame abater.

My concern, it would to some degree if it wasn't an open flame, if we could find an emission control that didn't have a fire concern.

Yes, it is, again, controlling an explosive gas. I would rather treat it that way than admitting it to the atmosphere even for safety reasons.

BOARD MEMBER FRIEDMAN: But there is not an engineering solution to that?

MS. STEILEN: You are right.

We have looked at the solutions, and what we are on record, actually with the South Coast, which, with the Air Resources Board, have been working with as well, but we are on record there, is that we have them disconnect it under

variance.

What we are doing is investigating our own reliable LEL detectors, which actually, we are manufacturing them with help from a developer in the U.K.

The industry, there is nothing reliable now that will warn you in a timely manner reliably that works that an explosive mixture is happening.

We are piloting that. If it works, we can put that onto the catalytic oxidizers, but at the same time, I just don't think it is a very safe design that I feel comfortable with having any control of high emissions going into a catalytic oxidizer with an open flame.

We are looking at alternative technologies though.

CHAIRMAN DUNLAP: Can you connect our technical staff with that work, so they can talk to the folks doing the research there, have you been provided that yet?

MS. STEILEN: They are in tune with what we are doing with South Coast.

MR. SCHEIBLE: Actually, Mr. Dunlap, one thing that might be of some assistance here is that Mr. Venturini has some additional information that might be of some benefit to

the Board.

MR. VENTURINI: Mr. Chair and Board Members, maybe I can provide the staff with some additional information that may help you with this.

When we became aware of these incidents in other states as EPA was implementing this program at the facilities outside of California, because, of course, in California we have had these facilities under control for a number of years, we were obviously very concerned, as well as the staff, and my staff immediately talked to districts, facility operators in California, and EPA, and as a result of those discussions, it was very clear that there was operator error involved here, and the basic conclusion was that we did not see the need at this time to take the kind of step that EPA had done to delete this requirement for the back draft valve, and we, the staff, have been following very closely these activities, the work that is being done with EPA to identify this, or identify any solution.

Our intent would be to continue to follow what is being done to see if there are options or alternatives.

I know that this company is under variance currently in the South Coast District for their facilities through, I believe, August of 1999, and one provision of the variance order, they are looking at the interlock system that will probably be tested at their facility in Los Angeles, so that is where in our discussion with all the facilities and

the districts came to a mutual conclusion that we should proceed ahead, and we did not see a need to delete or suspend the back draft requirement.

I will ask staff if they want to add anything additional to that.

BOARD MEMBER CALHOUN: Did I understand, Mr. Venturini, that you said that most of these accidents were based on operator error?

You can have operator error in almost any process.

MR. VENTURINI: In these facilities where it is very important that operators be well trained in operating this equipment.

CHAIRMAN DUNLAP: Okay.

BOARD MEMBER CALHOUN: It seems to me that this could happen in almost any plant where the operator makes an error and the question of whether or not you want to disconnect some control equipment because of it.

MR. VENTURINI: We are not aware of any other facilities that have asked us to remove this back draft, or are not aware of other facilities that have gone to a district to seek a variance to remove or disconnect the back draft valve.

BOARD MEMBER FRIEDMAN: What is the status of this interlocking technology that would prevent that?

MS. STEILEN: We have looked at interlocks, and again, we do have some interlocks that we are going to be

installing, but they are not as highly reliable, and it went through great in South Coast, but the safest one of using the

open flame system that I see is a direct measurement that before you can even allow anyone to open the door, before that valve will even open, is that you measure the concentration of the EtO in there, and actually getting the accurate measurement of the EtO is not a state of the art thing.

We don't have a reliable LEL monitor, a source, that can reliably, that I would put on an automatic mode and really trust that it would reading accurately for long periods of time. That is not there.

We are actually using a new microwave spectrometer, which is something that we are working with the University of Wales, they are in the U.K., to develop.

We are testing it currently in our Santa Theresa, New Mexico plant, a prototype. Actually it is something that we are taking the pain of developing, and we will be putting that into the LA facility, and that is where South Coast has permitted a variance.

Until we can prove that it is reliable, we will leave it disconnected.

CHAIRMAN DUNLAP: How many of the these facilities are operating, these units are operating in California?

MS. STEILEN: California?

I don't know.

25 CHAIRMAN DUNLAP: Along the lines of the larger

1 ones?
2 MR. POPEJOY: There are six facilities operating
3 about five entities in California.
4 CHAIRMAN DUNLAP: And Griffith, you have two in
5 California?
6 Are you headquartered here, by the way?
7 MS. STEILEN: No.
8 We are headquartered in Illinois. There are two
9 facilities, and just from a competitors sake, I think there
10 is another very large unit that had a catalytic oxidizer, but
11 they don't have the back vent because they disconnected the
12 back vent, meaning that they didn't disconnect, they
13 disconnected it from the process.
14 They have a fully automated process where they
15 don't need to worry about the worker exposure.
16 CHAIRMAN DUNLAP: Okay. So, Mr. Kenny, it's
17 staff's reasoned opinion that the Board ought to go forward
18 and adopt this proposal, despite the safety concerns, because
19 of the primary emphasis on user error rather than engineering
20 flaws, and that you guys, staff is going to continue to
21 monitor and work with the industry with the research and
22 engineering issues that are ongoing, you guys are going to
23 provide some linkage, some leadership there; is that correct?
24 And the locals want this to occur, and that EPA,
25 the issues regarding EPA are stabilized to the point where

they are comfortable with us moving forward?

MR. SCHEIBLE: I don't know if we have heard from EPA on this, have we?

MR. VENTURINI: EPA has sent the letter, which they believe that with the amendments that we are making to the control measures they can find approvable and is equivalent to the Federal max standard.

They did not raise the issue to us.

CHAIRMAN DUNLAP: Well, what I am getting to is this, that EPA, which you pointed out in your package, suspended this item for a year based upon some on some safety considerations.

I'm assuming, EPA is a large bureaucracy, but I am assuming that the same folks involved with this issue were the one's that sent this letter to us telling us to proceed; is that correct?

MR. SCHEIBLE: Mr. Chair, the difference though is that what EPA was really addressing was the specific amendment before the Board today with regard to the modifications that would allow this rule to go into place.

What the witnesses are addressing is the rule as it currently exists on the books and the fact that there have been safety issues associated with that rule, and that is why they are raising the issue of the accidents.

The issue that they are raising really is

completely separate from the issue that we brought to you as a Board today.

What we are proposing today was to make amendments that would allow us to combine essentially a Federal requirement for EtO with a State requirement for EtO and thereby present to the State a mechanism by which we could achieve the emission reductions that we needed and do it in a streamlined fashion such that the industries that had to comply only had a single regulatory requirement to comply with.

This issue of safety is one that actually goes beyond that and really goes to the heart of the rule itself. It simply says, the EtO rule has a safety issue associated with it.

We have been working on the safety issues since the initial explosions were brought to our attention last year, and we have been following that to make sure that, in fact, we can monitor the safety and that we can make sure that, in fact, we can address these as time goes on, but we don't have an answer on that at this point.

CHAIRMAN DUNLAP: But this act will not jeopardize the variance that they are operating under in the South Coast; is that correct?

So, they will still be able to do that. They still can get some recognition for those extraneous issues beyond

our actions; is that correct?

MR. SCHEIBLE: Correct.

BOARD MEMBER RIORDAN: Just to follow along on the variance, it appears to me as that we, as Mr. Kenny said, we are dealing with one thing here, but that if you can make a compelling case, or one of your competitors makes a compelling case with the local board, you can be granted that variance, or whatever, and we can still monitor this in a broader scope; am I correct?

MR. SCHEIBLE: Correct.

BOARD MEMBER RIORDAN: It makes it a little easier for this Board to move forward because the real issues that you are raising really that needs to be done is at the local board to get that variance and allow the local board the discretion to make that decision.

MR. SCHEIBLE: According to staff, the variance has been granted, so the relief for this particular plant is already in place, and a change to the overall generic rule is not needed for this plant to address its safety issue and proceed that way, and we are not aware that other facilities in California are in need of such a solution, so that's why staff does not see the need to change the regulation as it stands now.

BOARD MEMBER FRIEDMAN: Mike, is that because they don't or are not as savvy about this, I mean, because they

have not experienced an episode?

I am having a major problem here, because I would love to see us parallel a process, in other words, integrate the Feds and us, and so forth, and at the same time, my problem is that it takes one explosion, compared to an extra 200 pounds of this material, weighing its cancer risk against how many potential people will die suddenly, heaven forbid, if an episode occurs.

I've got news for you, I'm not smart enough to know how to weigh both of those things, and I'm having trouble figuring out, I don't know what will happen in six months.

I don't think that very much at all is going to happen in six months, and this can't be open ended, open ended all the time, because we have to keep the air clean, and that is why I asked the question earlier, what is really on the front burner in terms of expectation.

Maybe that is not a good -- but in terms of an expectation of you coming forward with something that will solve this problem, if the expectation is high, we should wait a little while. If it's not, then we will just have to continue to work the way we are now, everyone motivated, but not a specific end point or hypothesis that is able to solve the problem.

MS. STEILEN: I can talk a little bit on what is on our front burners and back burners to solve this issue.

Since I have been with Griffith, this has probably

been at least 75 percent of my job right now, for both industry and Griffith, solving this, but what we are doing is this interlock solution, but that is, again, to interlock something that is connected to an open flame oxidizer.

I still, both the environmentalist in me and the safety person in me doesn't believe that an open flame abater connected to any potential high source, if an operator error, that you should have anything as an operator error causing an explosion.

You can do all the safety training in the world. There is still the best probable of one in a thousand that there will be an operator error.

I don't want an explosion as a result of an operator error. I am looking at alternative safer technologies.

We have got a system going into place in our Willow Brooke, Illinois plant. It is a scrubber system to see if we can get that 99 percent efficiency.

The scrubber system is not an effective means of scrubbing this, but we are testing that. That is committed to be in place by December of this year.

I don't want to invest another three of these type systems into our other plants if they are not going to work.

At the same time, we have a different outfit in

U.K., again, looking at two different alternatives.

We have another competitor looking at a biofilter,

which is using bugs to eat EtO. They are testing that.

There is a lot going on, but I can't guarantee that we will be able to meet the existing Federal NESHAP Regulation.

CHAIRMAN DUNLAP: Ms. Edgerton, Mr. Calhoun and then Mr. Kenny.

BOARD MEMBER EDGERTON: Can you tell me how long you have been with the firm then, how long have you been working on this?

MS. STEILEN: I have been with Griffith Micro Science since June of last year, which the explosions started June eighteenth, and I started June ninth.

BOARD MEMBER EDGERTON: So, it has been 11 months.

When does the one year period of suspension come to an end for the U.S. EPA?

MS. STEILEN: It is supposed to go into effect December eighth of this year.

I have been working with the OEQPS Federal level to see if we can get more time, because I know from the Federal it is a much, much bigger issue for the Federal because there are a number of my competitors, and ourselves, that we don't even have control on the aerations side, that 4.8, so we are waiting to get guidance yet on what to do here.

It is kind of a bigger issue yet for my nonCalifornia plants.

BOARD MEMBER EDGERTON: It's my understanding from

staff said that there are six plants in California, we know one of them, the Griffith plant has obtained a variance with respect to the back draft.

MS. STEILEN: We have two.

We did get a separate one for the plant in LA, and we have one in Ontario, California, and we were just granted the variance for that particular system to be disconnected, but again, I guess I still question, is that really what a variance process is for from a critical safety issue.

BOARD MEMBER EDGERTON: Does that leave four plants, run by competitors, without variances, where there is a risk that emission control technology as designed would blow up?

MR. POPEJOY: May I answer that?

We have been in touch with all of the facility operators, the large commercial facilities, during the development of the reg.

We met with them immediately after we became aware of the incidents, and they were all well aware of the risks.

We have been in touch with these facilities since we released this hearing package, and we have heard from no other facility at this level of concern.

BOARD MEMBER EDGERTON: Are the others proceeding to obtain variances?

MR. POPEJOY: No.

Not to my knowledge, and we have been in touch with

them on a regular basis, as recently as two or three weeks ago.

CHAIRMAN DUNLAP: Has anybody else called for a variance that you know of?

MS. STEILEN: No.

I don't know all of the one's in California. I wish I did.

We may be the only one's with this situation that have a catalytic and thermal.

I can speak from our Association level, there are about 60 percent of all of our sterilizers do use, 60 to 70 percent, do use the catalytic and thermal oxidizers.

BOARD MEMBER RIORDAN: That's nationwide.

MS. STEILEN: Nationwide.

I don't know in California.

I do know of one competitor that is here, and they disconnected the back vent. They don't need it, and they don't have any concerns.

BOARD MEMBER EDGERTON: I just wanted to say that I appreciate that it may be individual human error in some of these instances.

However, I am concerned, and I don't feel comfortable enough with what may be the level of, or what may be the likelihood of human error in this particular -- it's sort of the building of the risks to ignore this issue.

I think we could go forward with the proposal

today, and then we could also make an effort, maybe a special committee, or have a motion to work on this, or maybe suspend it for three months to look at it, I don't know.

I just don't want to have looked at this material and just sort of bully forward without any sensitivity to the safety.

CHAIRMAN DUNLAP: I think that is something that needs to come to a head here.

I'm not going to prolong this much longer, but what I would like to do is give Mr. Calhoun a minute to ask a question.

Dr. Friedman, Bill, I know I tease you on occasion about the important role that you play on the Board with your perspective, but I am going to come back to you after we hear Mr. Kenny and see if you can help us sort through this, because I know you know how these devices are used in use and their purpose.

BOARD MEMBER CALHOUN: My comment relates to the variance and how long the variance has been granted, six months, or three months, or what?

MS. STEILEN: It's actually an extended variance for the one facility that had the explosion in LA.

They have given us until July of 1999 to have something in place, this interlock prototype system, then at that point we have to make a decision on the other LA facility and the Ontario facility as to, is this a good

control there.

They are watching what we are doing with this particular installation and also what we are doing in Willow Brooke, Illinois, as far as the scrubber to see if any of those go in at the same time as the alternative. So, we are going to make a decision of whether or not to go forward in July of 1999, which safety controls or which new type of equipment we need to install that is safe.

BOARD MEMBER FRIEDMAN: That's July of 1999 --

MS. STEILEN: It's considerable.

BOARD MEMBER FRIEDMAN: Yes, it is, and it seems to me that the primary concern is already being taken care of, and I don't see any need to hold off on moving forward with the Regulation.

BOARD MEMBER CALHOUN: They can always go back and apply for another variance.

MS. STEILEN: I guess I question, is it the regulation, is that what the variance process is for?

You're right. We have covered the safety, and I

have made sure we have those back vents disconnected.

CHAIRMAN DUNLAP: It is what the variance process is for.

I know several of us on the Board know Ed Camarilla, who is the Chairman of that Hearing Board, a long-time air quality engineer, a good man, knows his stuff, and if he gave you that length of time, I know he had some

rationale for it.

Mr. Kenny, why don't you see if you could right our listing ship here on this issue for a moment?

MR. KENNY: All right. I actually wanted to echo a fair amount of what Mr. Calhoun just indicated.

We are talking about a limited number of facilities in California, and of those facilities, the one's that seem to be having the most concern about this particular issue are the Griffith Micro Science facilities.

They are both under variance, and so the safety issue has been addressed at both of those facilities.

The other facilities in the State, at least in our context with them, do not seem to have the same level of concern with regard to this issue as these particular facilities owned by Griffith Micro Science.

As we continue to work with the other four facilities, which haven't expressed the same level of concern, we will try to work out any safety issues, and we

will come back to the Board and address them if, in fact, we do need to propose something to the Board to modify the regulation.

To go one step further, the item before the Board today is a very different item. What is before the Board today is really a harmonization of the Federal and State requirements. It is not this issue.

We can commit to the Board that we will continue to

work with both the witnesses here today, and we will continue to work with the other owners of facilities who have not raised the issue today, and we will come back to the Board and will address it as necessary.

But I think today the safety issue is at least covered to the extent that the variance is covered, the facilities of Griffith Micro Science who is concerned about it. The other facilities are not raising the issue to us.

They seem to be relatively comfortable with the regulation as it is on the books in terms of the safety elements.

CHAIRMAN DUNLAP: So, your argument is to go forward.

You guys will monitor it, and if indeed there is another technology that can be employed, you will come back for modification.

They have the process and statute provided for

them, right, Kathleen, to seek variances? They have been granted them successfully in two cases so far.

We have no reason to believe they would not be able to make the case again, and we deal with what we are to deal with today, which is harmonization of the Federal and State requirements; did I get that right, Mike?

MR. KENNY: I think you summarized it perfectly.

CHAIRMAN DUNLAP: All right. I will come to you, Sally, in just a second.

Dr. Friedman.

BOARD MEMBER FRIEDMAN: I don't have a problem in approving this for the reasons stated before in terms of integrating Federal and State.

I am not convinced that it won't be because other folks have not expressed the same level of concern about safety, that that makes us, we should be sanger about the issue of safety.

I mean, these folks have been burned badly, and so have three other places. It only takes one more experience for us to remember just how significant this could be.

So, I like the notion of parallel processes, and the little delay, if you will, and when we have to revisit the issue based on continued discussions with everyone in California using this approach, but this is a paramount issue.

It's secondary to what is on the table, but it really has to resurface again at some time for us to feel comfortable.

CHAIRMAN DUNLAP: The idea of public safety and public health, I think, are essential to what we do and that is why it is troubling, the issues that you are bringing up.

BOARD MEMBER RAKOW: The other facilities or members of your Association, what level of operation are they compared to yours?

Are they as large, or is it just that they have

been lucky so far?

MS. STEILEN: I only know of one, the Isomedics.

They are a member of the safety subcommittee. They are the one's, I know, after hearing of the explosions disconnected, and they have a fully automated process.

I would love to have their process right now. We can't, for OSHA reasons, disconnect.

CHAIRMAN DUNLAP: What I think am going to do is I am going to excuse the witnesses, unless you have a question for them, and I want us have a chance to talk about this for a moment, and then we will consider the Resolution before us.

It was a fine presentation. The only criticism is that we got it late.

BOARD MEMBER EDGERTON: Mr. Chairman, I would like to hear that the effort to make sure that this is not a

problem at the other plants is a proactive one.

Monitoring, the word monitoring didn't quite sound aggressive enough, or proactive enough to solve my nervousness about this.

So, that is something that I would like to ask that there be a prompt, run out and check this and make sure we are not going to have an explosion, and I think that the property damage is significant, too.

I'm glad no one has died.

CHAIRMAN DUNLAP: We had pictures.

We saw the hole in the roof and the material, the

ducting, you know, so we have a context.

BOARD MEMBER EDGERTON: Thank you.

CHAIRMAN DUNLAP: Yes.

BOARD MEMBER PARNELL: I don't want to prolong it, but I guess I want clarification.

It seems to me that if we are going to vote for parallel process, which is what is on the table before us, and that the safety concerns are, in fact, met through the variance process, and if they agree that they are met, and if we agree that we are going to continue to be sensitive to the safety issues, then we need to move on and vote this.

CHAIRMAN DUNLAP: Agreed.

MR. SCHEIBLE: If I can make a comment, also, we are not talking about a large number of facilities here.

To be somewhat aggressive and very proactive, we can contact each the facilities immediately, and we can provide a response as to what those facilities believe, and we can then follow-up on that.

That is, essentially, a way of going forward with the item today that provides for the harmonization while at the same time rapidly responding to the safety issue and ensuring, in fact, we have it under control.

BOARD MEMBER PARNELL: I guess that I would like assurance from the witnesses that they feel some comfort that the safety issues are and continue to be handled until we get a resolution and that the sensitivity of our staff is

sufficient to move forward on the parallel process.

MR. McFARLAND: I think we are comfortable with that.

The one thing that I would like everyone to keep in mind is that in terms of the parallel process, the Federal Rule is a little bit of a moving target right now.

There may be changes made in the next six months, and we would like to maintain the parallelness.

I think that what we would like to see is we would like to work with staff, keep addressing these issues, and we would like to come back here in a reasonable period of time, which may be six months, or before the December deadline, and report back on the status of where we stand.

CHAIRMAN DUNLAP: Very good.

I appreciate that.

Mr. Parnell, that was an apt summary.

Any other written comments staff needs to summarize?

I hope that there aren't many.

MR. FLETCHER: There are a few. There is a letter from 3M that is advocating the use of the portable analyzer to determine ongoing compliance with the requirements.

All they are doing is request that we work with them to investigate this option, and we are fully prepared to do that because we are always looking for ways to improve compliance options.

There is a letter from the South Coast Air Quality Management District that indicates that they have been involved with us in the development of the amendments and support the amendments.

There is, again, a suspension of the presentation and the letter by U.S. EPA, dated May fifteenth, that indicates that their initial approvability review is acceptable, and they are prepared to review and approve the submittal.

There is also a letter from the Chemical Manufacturers Association that is commenting on some of the health effect statements that we made in the staff report.

They believe that there is new information available. This is sort of outside of the context of this rulemaking, and there is a process available to reconsider any new health information.

I believe that is it.

CHAIRMAN DUNLAP: All right. Very good.

Thank you.

I will now close the record on this Agenda item. However, the record will be reopened when the 15 day notice of public availability is issued.

Written or oral comments after this hearing date, but before the 15 day notice is issued, will not be accepted as part of the official record on this Agenda item.

When the record is reopened for the 15 day period,

public comment period, the public may submit written comments on the proposed changes, which will be considered and responded to in the final statement of reasons for the Regulation.

Any ex parte communication that the Board needs to disclose on this item?

All right. We have before us Resolution 98-20. The Board has had it for a while. We got it at the outset of the meeting.

The Chair will entertain a motion to move the Resolution with the following additions, and I will do my

best to add on, and Mike, and Kathleen, you can help me, too, if I miss anything.

This, several things that we are going to ask staff to be aggressive on, number one, to survey the remaining operators in the State, the other four facilities, to determine what, if any, need for variances they have and get an impression from them, if the process works for them, to be able to secure one, and I believe it does, but I want you to ascertain that.

Secondly that we actively track and participate in any alternative technology uses that could apply here to this industry, and I would ask the industry, though we can't direct them, we don't have the authority to do that, for them to share with us, you know, Peter, to work that out, so they share with us research results, and most importantly, I

think, to track operations at those six facilities to ensure that they are safely being operated.

If there are any incidents that occur beyond routine problems or shut down, but any explosions, I want the Board to be made aware of it via a memo in real time to the entire Board, at which time accompanying that memo some communication from our Legal Counsel, Ms. Walsh, outlining how we can fast track, bring this item back to the Board for any kind of discussion.

MS. WALSH: There is an Emergency Regulation

process that would allow us to bring it to the Board in very short order.

CHAIRMAN DUNLAP: Okay.

Does that do it for my Board Member colleagues, does that capsulate it?

The Chair would entertain a motion on 98-20, with those additions.

MR. KENNY: One addition that might be of some benefit, we can basically provide a memo to the Board within the next week to 10 days that gives them our findings, at least preliminarily, in terms of the context with the Board, so that the Board is fully aware and informed.

CHAIRMAN DUNLAP: Thank you.

Is there a motion?

BOARD MEMBER RIORDAN: I will be happy to --

CHAIRMAN DUNLAP: We have a motion from Ms. Rakow,

and a second from Mrs. Riordan.

Any other discussion?

We will proceed with a voice vote.

All those in favor of approving Resolution 98-20, with those items amended that we have discussed, please say aye.

Any opposed?

Very good. Motion carries.

Thank you, staff.

We will move to the third item.

I appreciate the witnesses, again, I know I have said it to you, I don't want to stroke you too awful much, we appreciate the time and effort that went into that presentation and the straightforward manner in which you presented it. It was very, very well done.

Research plan, item number three, 98-5-3, a Public Meeting to Consider a Draft Report: Planned Air Pollution Research for Fiscal Year 1998-99.

We are pleased to welcome our Research Screening Committee. It is always a pleasure to see them, appreciate them and the time and effort they put in on our Board's behalf.

The research projects proposed in the report were reviewed by the Board's Research Screening Committee on April third.

I want to welcome them to our Board meeting. They

are with us today. We will have the opportunity to introduce the individual members in a few moments, but as most of you know, you the Board established this Committee, it was established by law to advise the Board as we develop and implement our Research Program and to recommend for approval the research proposals that are designed to meet the objectives that we establish.

This planned research is developed annually to

ensure that it reflects the Board's priorities, and again, a lot of time and effort goes into this, and that's why we have, I believe, a premier Research Program here at our Board.

So with that, I'll ask Mr. Kenny to introduce the item.

MR. KENNY: Thank you, Mr. Chairman, Members of the Board.

Today we want to present for your consideration the Board's proposed research for next fiscal year.

This planned research, as you know, is developed over the course of approximately 10 months by the staff with the assistance of the Research Screening Committee.

We are very appreciative of the assistance provided by the Research Screening Committee. At this point, I would like to introduce Professor Cota, Chairman of the Research Screening Committee, who will present the Committee to you and provide comments on this year's research highlightS.

Professor.

DR. COTA: Thank you, Mr. Kenny. Good morning, Chairman Dunlap, and Members of the Board.

It is A pleasure for the Research Screening Committee to join you every year, and it is A pleasure to see you.

I would like to start by introducing myself, and

then asking the rest of the Members to introduce themselves.

I am a Professor of Environmental Engineering at Cal Poly, also currently the Director of EPA Areawide Training Center on the west coast, whoSE main mission is to train people in the regulatory agency and industry and continuing education type thing.

My research interests are in the chemical engineering side of air pollution and public health.

DR. HIGDON: I'm Jim Higdon. I am a Professor of Physics at Clairmont McKinna College.

I run our Engineering Program, and my area of research is turbulent mixing of passive contaminants.

DR. HOEKMAN: My name is Ken Hoekman, and I have a Ph.D. Degree in Organic Chemistry.

I have been employed by Chevron for the past 18 years.

My areas of expertise involve vehicle emissions and the impacts of those emissions on air quality.

DR. ORTNER: I'm Jim Ortner, and I manage air

quality and alternative fuel issues for the Orange County Transportation Authority, and also the area of technical services for the Authority.

MR. TAYLOR: Tim Taylor, I am an attorney here in Sacramento, and I practice in the area of environmental and natural resources law.

MR. ZELDIN: I am Mel Zeldin. I am the Director of Applied Science and Technology Division with South Coast Air Quality Management District.

I run our laboratory and monitoring group, and my area of expertise is in meteorology.

DR. COTA: To save time, I am going to read a few more comments.

Speaking on behalf of the Committee, it is a pleasure to serve the Board and to provide the staff and the Board with the assurance that the research projects brought before you have received careful peer review.

This assurance comes from the Screening Committee Members and your Research Division staff, technical expertise and dedication.

During the past year, a great deal of research activity centered around the Southern California Ozone Study, airborne particulates, diesel engine emissions and the health impacts of ambient air pollution.

The Ozone Study consisted of extensive air pollution monitoring and meteorological monitoring to gather

data that will be employed in new generations of air quality models.

These models should allow for more refined forecasting and control decisions for oxides of nitrogen, hydrocarbons, particulate matter and toxic air contaminants.

The Children's Health Study is entering its sixth year. Approximately 4,000 schoolchildren underwent their annual lung evaluations.

These investigations have started to produce health findings related to the prolonged exposures to ambient air pollution. You will hear more about that Study next month.

In the upcoming year's plan, you will find continued measured emphasis on particulate matter. There are several important projects planned to investigate the sources, transport measurement and health effects of airborne particles in California.

Much of the information from these studies will provide very important information to prepare effective control programs to achieve the Ambient Air Quality Control Standards.

I would like to thank Dr. Holmes and his staff for their efforts in providing the Research Screening Committee with timely staff reviews so that we can better evaluate the research projects that come before us for review.

I would like to express my respect for your Board and its staff. It's a pleasure to serve you as you steer a

course to provide the maximum environmental protection and maximum economic benefit to California.

We hope that we will be able to assist you as you make decisions that lead to healthful air quality in

California.

Finally, our Committee reviewed the report that you are considering today, and we recommend you approve it.

I will now turn the meeting or presentation back to Mr. Kenny.

MR. KENNY: Thank you, Dr. Cota.

I do want to thank the entire Research Screening Committee. Without their assistance, we wouldn't be able to really provide to you the information that we provide to you on a regular basis, so they are invaluable to us.

This year we continue the solicitation of research ideas from the public. We received 75 public research ideas, six of which were developed into projects that are included in this plan.

The research planning process is as follows, I have established a research team within the staff of the Air Resources Board representing the seven research categories in the plan.

These teams meet to develop and review staff research ideas, to review the public's research ideas and to submit priority projects to the Executive Research Review Committee.

This Committee, which I Chair, consists of my three deputies, Mr. Cackette, Mr. Scheible and Ms. Terry, and the Research Division Chief, Dr. John Holmes.

The task of the Executive Review Committee is to decide which projects to recommend for funding. This year sixteen projects are recommended for funding, and six projects are recommended if funding is available.

Eleven of the twenty-two projects in the report address different aspects of particulate matter. The proposed Extramural Research budget for next fiscal year is $2,900,000.

The plan shows how the budget would be allocated to the recommended projects in the various research categories.

I should note that in addition to the Extramural Research Program, the Board sponsors research under several other programs for which the Legislature has provided more narrowly defined objectives, either in statute or in the Budget Act.

These programs, which are periodically reviewed by the Board, are listed for your information on page 4 of the report.

A planned research for these programs does not appear in the report before you today. These other programs are carefully coordinated with the Board's Extramural Research Program.

The resulting projects are also reviewed by the

Board before contracts are awarded.

Now I would like to introduce Dr. Steven Brown, of

the Research Division, and he will take us through next year's planned research.

Dr. Brown.

DR. BROWN: Thank you, Mr. Kenny. Good morning Chairman Dunlap and Members of the Board, and Chairman Cota and Members of the Committee.

In accordance with the California Health and Safety Code, the Air Resources Board investigates the causes of air pollution, the effects of air pollution and the solutions of air pollution in California.

In planning the research program, we try to look ahead to address the potential environmental problems and regulatory needs.

The Mobile Source Control, the Stationary Source and the Technical Support Divisions play major rules in deciding our research program.

Each Chair is one of the research teams established by Mr. Kenny. We also work closely with the South Coast Air Quality Management District to coordinate our research programs.

In September of last year, we solicited research ideas from the public by mail, and in February of this year, we hosted a public workshop to present staff project selections and to receive comments from the public.

25 The report you are receiving includes a summary, an

1 introduction that outlines the planning process and
2 descriptions of 22 proposed research projects.
3 As Mr. Kenny mentioned, this year we have 16
4 projects listed as recommended, and 6 listed as recommended
5 if funding available.
6 We have grouped the proposed projects identified by
7 the research teams into four research areas, as shown on this
8 slide.
9 Proceeding by research area, I will go through the
10 proposed projects for next fiscal year. Seven projects are
11 proposed in the first research area, motor vehicles and
12 fuels.
13 Three of these projects involve exhaust emission
14 testing for particulate matter and other pollutants, and the
15 last project on this slide will measure PM emissions from
16 tire and brake wear.
17 This slide shows the remaining three projects in
18 this research area. The first is a demonstration of level
19 three, or high power charging of electric vehicles.
20 The second is the development of an automated
21 system for analyzing motor vehicle activity. Global
22 positioning and a geographic information system would be used
23 to determine the time, distance and purpose of the vehicle
24 trips to improve the mobile source emissions inventory.
25 The last project will determine nonregistration

rate of onroad vehicles.

Four projects are proposed in the next research area, toxic air contaminants. The first would add a risk assessment module to the hot spots integrated computer program.

The second would examine alternatives to methylene chloride furniture stripping. The third would determine the exposure to crystal and silica and fine minerals near sources of these materials.

The last project would investigate air dispersion modeling near pollutant sources. Under the California Clean Air Act, the Board provides technical assistance to local air districts to support their activities.

We are proposing nine projects in two of the research categories under this area, stationary sources and regional air quality.

The next slide those shows the three stationary sources projects. The first will investigate low reactivity solvents for use in reformulated consumer products.

The second project will demonstrate a high volume collection system for measuring hydrocarbon leaks.

The final project in this category would estimate ammonia emission factors using a fabric deneuter.

Six regional air quality projects are proposed. This slide shows the first three projects, all of which are

designed to improve our modeling capabilities.

The last project on this slide is the improvement of a regional ozone model. The next slide shows the three remaining projects in this category.

The first project would improve our Ozone Control Program, while the final two projects would help us better understand particulate matter.

California Ambient Air Quality Standards are designed to prevent or minimize adverse health and environmental effects.

We have two projects in the health effects research category. Both projects are designed to help us better assess the effects of PM exposure and thus provide the Board an improved scientific basis for establishing standards.

As Mr. Kenny stated, we anticipate an Extramural Research budget of just under $3 million. This corresponds to the total cost for the 16 recommended projects for next fiscal year.

This figure shows the proposed allocation for these projects among the program areas. Air quality standards would receive 21 percent of the funding, the California Clean Air Act would receive 23 percent, motor vehicles and fuels would receive 43 percent and toxic air contaminants would receive 13 percent.

I would now like to describe the next steps in the

process. The projects that I have mentioned are now in the conceptual stage.

These projects, with your approval of this report, will then be developed into either Requests for Proposals, or interagency agreements in consultation with the Research Screening Committee.

The resulting proposals or agreements are evaluated for their technical merit by staff and presented to the Research Screening Committee for review before coming to you for approval.

This concludes my presentation. Each team is represented here today to answer questions you may have on specific projects.

BOARD MEMBER RIORDAN: Let me ask Mr. Kenny if he has any other comments, and then I will open it up to questions by the Board Members for staff.

MR. KENNY: Nothing further.

CHAIRMAN DUNLAP: Board Members, are there any questions of the staff at this point?

We have one speaker, and I will ask Mr. Wang to come forward, please, from WSPA.

MR. WANG: Thank you. Good morning.

I want to thank you for having the chance to, once again, have WSPA come before you on many different issues.

Today we want to thank staff for their response to

our comments. We made some suggestions about some programs and projects, and they made two recommendations, which I wanted to note.

First, staff agreed to place Nonregistered Onroad Vehicle Project in the recommended, if funding is available, category, and to place reactivity and 3A modeling in the recommended category, and we certainly appreciated that.

The classifications, though, brings up some additional comments. We are unclear as to what, if funding is available, meant in terms of the potential for realignment of existing project funds for some initial seed money for starting some of those, if project funding is available, getting those started until the completion of the funds were made available.

CHAIRMAN DUNLAP: Do you want us to answer that now, or do you want us to hold you in suspense, Michael?

MR. WANG: I can't stand suspense, you know that.

CHAIRMAN DUNLAP: Mr. Kenny, or Mr. Barham, what do you mean by that artful phrase you have added there, some kind of windfall coverage, or what?

MR. BARHAM: I wish it were that simple, Mr. Chairman.

Each year we present to you a plan for research.

Until last year, we showed you basically what we were going to fund, up to the dollar amount that we had

available.

What we would find over the years, through their co-funding, or through the primary method of competitive bidding on contracts, or a number of other issues, money sources become available to us, projects are sometimes dropped, for example, the money is freed up and we can redirect it into other areas.

CHAIRMAN DUNLAP: If you are a tough negotiator in your competitive bid process, we will save a few bucks, Mr. Zeldin goes back to his organization, says, hey, this is really good, we got to get into this, that might provide some dollars, for example, right?

Okay.

MR. WANG: Can we be put on the top of the contingent list, then?

CHAIRMAN DUNLAP: What Mr. Wang probably wanted to ask, but was too much of a gentleman, would there like be enforcement money available or something, and that is not what you are looking at, right?

MR. BARHAM: No.

MR. KENNY: With the addition of guarantee of matching funds, we could probably be convinced to putting it on the top of the list.

CHAIRMAN DUNLAP: We borrow that wallet on occasion, Michael.

MR. WANG: We will just continue to work, and hopefully we will have some kind of luck in terms of

additional funding.

One final comment, it was impressive the package in terms of the research. It is pretty impressive, it shows that there is a tremendous amount of research in a number of different categories.

The research projects in this Agenda item, as well as some of the problems before the ARB, whether they be toxic air contaminants, diesel, PM 2.5 criteria pollutants suggest that ARB may want to consider a larger topic in the near future, and that topic would be an integrated study of the effects of indoor and outdoor pollution of overall health risks of individuals.

You have almost built that program, if you look at the outline on page 4, you have a tremendous amount of money dedicated to indoor air pollution, you have a tremendous amount of money dedicated to children's health, you could be able to take this and integrate it much in the way the EPA has with the total exposure assessment methodology and you have done is you will have taken the outdoor risk, the risks associated with human health that you have all been working with, the risk of, the reduction regulations at the local district level, you will have integrated it into an approach of, certainly, there are statutory implications for all this,

and I think that this is more of a research suggestion, that at some point, I think if California continues to want to lead in this effort, you are going to have to look at the

integration of indoor and outdoor and all of the other aspects of risks together, and I just thought that I would put that in there as a potential approach for next year and the years following.

CHAIRMAN DUNLAP: All right. Mr. Kenny, why don't you guys, as you explore how to build this, Research Screening Committee consider that.

What I am picking up from that Michael, it's more of a framing, how we frame it, and perhaps refer to it, it appears that we have lined things up for stationary source, for example, for mobile, we have not split it up in another way.

Does the Research Screening Committee have any issue with that?

It seems like a reasonable suggestion. That's it for the witnesses.

Anyone else want to speak on this item?

All right.

Any written comments?

It isn't a regulatory item, so we don't need to close the record. We have before us a Resolution, 98-21, which contains the staff recommendations and that of the

Research Screening Committee.

The Chair would entertain a motion and a second on this item.

BOARD MEMBER EDGERTON: I move it.

CHAIRMAN DUNLAP: Ms. Edgerton made the motion, Mark seconded it.

Any discussion that we need to have?

BOARD MEMBER FRIEDMAN: I wonder if, this is fine. I congratulate everyone on their prescience of what we need to be looking for, but it occurs to me, every year a certain amount of funding ends for projects.

I have not seen, mainly because I have not been here all the year, a summary of each project funded and the results of that project, and a comment by the staff of the significance, what significance has resulted from accomplishment or completion of the study, and I think that would be immensely helpful, and it should be done yearly.

You get bits and pieces in different ways, but a very simple, one or two page summary of the X number of completed research opportunities would be very good for the Board.

MR. SCHEIBLE: I was aware of the fact that we do a summary, and so I was just asking Bob whether or not we also have a kind of annotation that are suggesting, and it looks like we may actually have that, and so we will get that to

the Board immediately.

BOARD MEMBER FRIEDMAN: In a nice concise way.

BOARD MEMBER RIORDAN: Isn't there printed something that I have?

MR. BARHAM: There is a printed summary. In the

past we have attached that to the research plan as an addendum.

We just didn't include it in what you have today, but we have it in that form and also as a stand alone document.

BOARD MEMBER RIORDAN: I think it is the stand alone's that come to me.

MR. SCHEIBLE: We will get that to you right away.

CHAIRMAN DUNLAP: I think Dr. Friedman's comments, that we are doing a lot of work, we are spending a lot of the State's resources and there is not a problem at all in trumpeting what has been accomplished, and we all know that in research there are going to be some things that turn out as anticipated and there are some that are not going to, and it is important to be fair in how we present that information.

It should be out there.

Also, Bob, there probably could be a very nice historical document done about what's happened the last 15, 20 years with research, and I encourage you to do something

like that, more of a grand summary.

MR. SCHEIBLE: We will give it to you in a 300 page book, no problem.

CHAIRMAN DUNLAP: All right. We have a motion and a second, to move Resolution 98-21.

If there is no further discussion, we will proceed

with a voice vote.

All those in favor, say aye.

Any opposed?

Very good. The motion carries.

Thank you, again, to the staff and the Research Screening Committee.

We will look forward to our lunch meeting with you in a few moments.

How is the Court Reporter doing?

Why don't we let folks change their positions. We will go to item number four, and we will give you just a minute to stretch.

(Thereupon a discussion was held off the record.)

CHAIRMAN DUNLAP: Now we will move to research item 98-5-4. The next item before the Board are two research proposals, and I believe that all the Board Members have had the opportunity to review these proposals.

Are there any additional concerns or comments by Members of the Board?

Mr. Kenny, do you want to just remind us of the two topics right now, would you do that for me?

MR. KENNY: Mr. Barham, if you could summarize, that would be great.

MR. BARHAM: Very briefly, the first one is looking at resuspension of airborne lead. We have done some monitoring, we would expect to see lead to fall off, it has

dramatically over the years, but we still are seeing elevated levels on occasion.

This project is designed to try answer why we are seeing that.

CHAIRMAN DUNLAP: This deals with inorganic lead, as well, and we took it up as a toxic air contaminant item a year and a couple of months ago, right?

MR. BARHAM: Sometime ago. The second project is looking at the air quality impacts of distributed energy.

There is a fairly large movement now going toward smaller generated plans on-site to generate electricity, as opposed to tying into large grids and the old way of doing it.

We believe there are air quality impacts associated with that, we don't know what they are exactly at this point, but we were able to partner with a DOE project that was underway to put this project together to look at that question.

CHAIRMAN DUNLAP: Okay. Mike, this is a similar, we had a visit with some folks about making these small turbines --

Okay. Very good.

I personally can vouch for these items. I personally see them as consistent, and Mr. Kenny, and the research team of the staff have followed up, I think, in a proper manner.

Yes. Ms. Rakow.

BOARD MEMBER RAKOW: I am particularly interested in the distributed generation proposal, and I mentioned to Bob that perhaps my former employee, the Energy Commission, might have some monies to put with this, if need be.

MR. SCHEIBLE: Well, actually, just on that real quickly, we have actually been coordinating quite a bit with the Energy Commission and making sure that the two programs are integrated so they can take advantage of each other's expertise.

CHAIRMAN DUNLAP: All right. The Chair would entertain a motion to approve Resolutions 98-22 and 98-23.

BOARD MEMBER RAKOW: I make that motion.

CHAIRMAN DUNLAP: Seconded by Dr. Friedman.

Any discussion that we need to have, further discussion on these two items?

If not, we will proceed with a voice vote, and can

I merge them, Kathleen, can we do one voice vote for both?

MS. WALSH: That would be fine.

CHAIRMAN DUNLAP: All those in favor of Resolution 98-22 and Resolution 98-23, regarding research, please say aye.

Any opposed?

Thank you.

We have two items left.

We have tentatively set for a lunch break around

12:30, so I am going to try and be bold here and see if we can finish these up.

Mr. Kenny, are you okay with that, can we get going?

All right. We will move then to 98-5-5.

I would again like to remind those in the audience that would like to provide comments to check in with the Clerk to the Board, Ms. Hutchens, and if you have written comments, please provide her with 20 copies.

Next item, 98-5-5, is a Public Meeting to Consider Fiscal Year 1997-98 Grant Awards for the Rice Straw Demonstration Project.

Last year the Rice Straw Demonstration Project Fund, which created with the joint support of the rice growers and the environmental community to provide cost-sharing grants to spawn commercial activities that use

rice straw as a raw material.

The goal of the Rice Fund is to invest the public money in activities that create a market for Sacramento Valley rice straw, to turn an agricultural disposal problem into a new commodity.

Today we have an unique opportunity to take a major step forward to achieving that goal by awarding grants for the first group of projects.

I'm delighted that the Air Resources Board has the opportunity to be part of this very positive program.

Four months ago, the Board approved the funding criteria and invitation for grant requests for the Rice Fund.

As a result, 12 grant requests were received representing a diverse range of projects, and the grant requests were evaluated according to the criteria the Board approved in January, and today the staff is recommending that three projects of the 12 be awarded grants for this fiscal year for a total of $2.07 million.

So with that, Mr. Kenny, would you introduce the item, please.

MR. KENNY: Thank you, Mr. Chair. Members of the Board, as Chairman Dunlap indicated, the grant requests were evaluated according to the criteria adopted by the Board in January.

The evaluation team consisted of four experts in

business and economics, three technology experts and three rice straw experts.

The staff recommends that the three proposed projects which received the highest rankings be awarded grants from the Rice Fund.

Mr. Cackett, Mr. Scheible and Ms. Terry and I, each reviewed the proposals and we agree with staff's recommendations.

We believe that the three projects meet the criteria of the Program and offer us the best prospects of succeeding in creating a market for Sacramento Valley rice

straw.

In its presentation, staff will describe these three projects and explain why we ask that the Board award them grants by passing the three resolutions before you.

Lesha Hyrnchuk, of our Technical Support Division, will now make the staff presentation.

Ms. Hyrnchuk.

MS. HYRNCHUK: Good morning, Chairman Dunlap and Members of the Board.

We asked that you consider today staff's recommendations for fiscal year 1997-98 grant awards from the Rice Straw Demonstration Project Fund.

This slide shows the outline of my brief presentation. I will first present some background

information about the Rice Fund Program, list the prescreening criteria, discuss the funding criteria used to evaluate the grant requests, describe the application review process and summarize the three projects which staff is recommending for grant awards today.

The Rice Fund was created by Senate Bill 318 with the goal of helping to create a market for Sacramento Valley rice straw.

The funding criteria used to evaluate the grant requests were adopted by the Board at the January twenty-ninth public meeting.

The focus of the Rice Fund is on projects close to

commercialization with the best chances of succeeding in the marketplace.

Straw collection and marketing projects at early stages of development are also encouraged, since this is area which would benefit future rice straw projects even after the Rice Fund Program has ended.

$2,070,000 is available for grants this fiscal year.

First, I would like to list the basic criteria used for screening projects. Projects not meeting these four basic criteria were disqualified from further review.

First of all, the projects had to use Sacramento Valley rice straw. Second, applicants had to meet two

minimum matching fund requirements.

The first was that the Rice Fund could only be asked to fund a maximum of 50 percent of the total projects cost.

The second minimum matching funds requirement was the applicant had to contribute a minimum of 20 percent of the total project cost.

This requirement was to demonstrate significant personal commitment to the project by the applicant, that the applicant was also taking significant risk in the project.

The third basic criterion was the project had to be technically sound, and the fourth was a completed application by the specified deadline.

This slide shows the four categories of funding criteria for which grant requests were evaluated after passing prescreening.

The area of technical plan review had the following four criteria: A viable technology for utilization of rice straw, reasonable and complete project, stage of technology development and technical competency of the project team.

The area of the business plan review had the following four criteria, business merit and commercialization plan, straw apply plan, financial support and credit integrity, business competency of the project team.

The area of program goal satisfaction had four

criteria also, potential quantity of straw to be used annually, length of time to self-sustaining operation, project location and replication potential and local community support.

The area of policy assessment had two criteria, policy assessment and environmental effects.

The application review process, 12 grant requests were received and were screened for the four basic prescreening criteria.

Five of these failed the prescreening process, primarily for not meeting minimum matching fund requirements.

The remaining seven were evaluated by reviewers with the following expertise, we had technical experts, business experts and rice straw experts.

The seven applicants made presentations about their projects at a public meeting in April. All seven applicants met with reviewers in clarification meetings where they responded to reviewers questions and comments.

The reviewers evaluated all seven applications and recommended ratings for all applications in their area of expertise.

Staff consolidated reviewers ratings and completed the score for each application. This review process resulted in the following three projects receiving the highest scores, which staff is recommending for grant awards.

Preprocessing of rice straw for multiple products, submitted by Anderson Hay and Grain Company, Incorporated, Bioboard Plant for Colusa, California, submitted by FiberTech USA, incorporated, Production of Fermented Animal Feed from Sacramento Valley Rice Straw, Prototype and Commercial Pilot, submitted by MBI International.

Staff concurs with the reviewers that these three projects have the best chances of success, and together are the best mix of projects for this fiscal year's grant awards.

With the next six slides, I will summarize the project proposals and evaluations of these three projects.

Currently, only about 8,800 tons of rice straw have been used off-field annually. Anderson Hay and Grain proposed to develop the infrastructure necessary for handling large quantities of rice straw, getting the straw from the

fields to the businesses that would use the straw.

An Anderson Group Company currently manufactures erosion control blankets from Imperial Valley wheat straw.

Based on recent successful trials, this company would use rice straw, creating an immediate market.

Anderson proposes to develop the necessary protocols for exporting rice straw to Asia for livestock feed, which would create a very large market for rice straw.

Anderson has shepherded on behalf of the national and export forage industry every successful forage customs

protocol through United States and Asian Government channels.

Anderson would also determine if rice straw could be processed to end-user specifications for use in the pulp, paper and board industries.

Anderson's proposed project would span three years, and after five years would use approximately 205,000 tons of straw per year.

This slide summarizes the reviewers evaluation of the Anderson proposal. This project would provide the needed straw infrastructure, which straw users have identified as a common obstacle to launching businesses using rice straw.

Anderson's project team was judged to have excellent technical and business competency and directly related experience in all project areas using various kinds of straw.

Anderson was judged to have the soundest financial

capability and integrity. This project would use significant quantities of straw for exporting livestock feed.

Staff recommends that a grant award of $500,000 for the Anderson project. Anderson's matching contribution would bring almost a million dollars to the project.

Next, FiberTech USA, Inc., project proposal. FiberTech's project is to manufacture particle board using rice straw.

FiberTech already has a 14,000 square foot facility

and eight acres of straw storage in the Colusa Industrial Park.

FiberTech plans to be in production by the end of this year, and expects to be commercially viable within six months after start-up.

The FiberTech project would last nine months under the Rice Fund. This first facility would use between 25,000 to 40,000 tons of straw per year.

FiberTech plans to build facilities in the future, and projects using between 125,000 to 200,000 tons of straw per year after five years.

Now the evaluation of proposal. The product, called bioboard, looks like wood-based particle board and would be used in similar applications, because of this, reviewers judged the product to have excellent potential for ready acceptance in the large particle board market.

FiberTech's project is very close to

commercialization and would use a large quantity of rice straw in the near term.

This project would be the first significant use of Sacramento Valley rice straw, which would start with the 1998 straw harvest.

FiberTech has already made significant investments of time and money into the project, and has already demonstrated its ability to procure, store and handle large

amounts of rice straw.

For the FiberTech project, staff recommends a grant award of $750,000. FiberTech commits its existing facility and a matching contribution of corporate and borrowed funds of $839,000.

The third recommended project was submitted by MBI International, to convert rice straw into a high value animal feed for dairy and beef cattle for the domestic market.

The technology is based on the patented ammonia fiber explosion process, which enhances the digestibility and food value of the rice straw.

MBI would build a mobile pilot plant, optimize the straw conversion process, perform live animal feeding trials and produce the engineering plans for the first full-scale production facility.

This Rice Fund portion of the project would take one year. If commercial operation is feasible, the first

full-scale commercial plant would be built in the year 2,002 to 2,003, which would consume between 160,000 to 330,000 tons of straw per year.

MBI has demonstrated significant commitment to develop a full-scale production facility. If MBI is successful in this endeavor, a very significant quantity of rice straw will be used.

MBI was judged to have excellent technical credentials, and through its business developments subsidiary, good business credentials.

The product was judged to be priced for easy entry into the domestic feed market, which currently relies on out of state imports.

MBI has gained financial support from Federal agencies and commitments from Federal and State agencies and private industry in collaborating on the feeding trials.

Staff recommends a grant award of $820,000 for the MBI project. MBI's matching contribution is $820,000, including $328,000 of it's own money.

We ask the Board to consider awarding grants to these three projects by passing the three proposed resolutions before you, which direct the Executive Officer to execute all necessary documents to implement the Rice Fund Grant Awards to Anderson Hay and Grain Company, FiberTech USA and MBI International.

The three applicants whom we are recommending for

grant awards are here today to answer any questions that you may have.

CHAIRMAN DUNLAP: Thank you, Ms. Hyrnchuk.

I appreciate that presentation.

We have one witness, so with the Board's indulgence, why don't we go to the witness, and then we will

take questions then.

Bob Herkert, from the California Rice Industry Association, otherwise known as CRIA.

MR. HERKERT: Thank you, Mr. Chairman. Bob Herkert, I'm the Field Service Manager for the Rice Industry Association.

Just briefly, we wanted to compliment you, sir, and your staff, for the very fine work that they did in putting this project together quickly with much credibility, and we are here to ask you to support the staff recommendations.

CHAIRMAN DUNLAP: Thank you.

Dr. Friedman.

BOARD MEMBER FRIEDMAN: I have a small question, and I know I have asked it before, but I can't remember the answer.

How many tons per year are produced of rice straw, number one, and number two, how many tons get burned per year?

MS. HYRNCHUK: Approximately 500,000 acres of straw are grown, we used a conversion figure of three tons of straw

per acre, so we say 1.5 million acres of straw are produced, and currently, 38 percent of the straw is allowed to be burned, and approximately this amount will continue for the next three years.

BOARD MEMBER FRIEDMAN: If these projects succeed,

and we hope they do, you have made a major inroad, it's another third of the total amount that there may be a real use for, and I think it is terrific, these are really exciting proposals.

CHAIRMAN DUNLAP: I would agree with that.

I also think this industry has been one that has really worked hard to stay abreast of the law, what we have been working on, Terry and your team, you have been long suffering as you've worked through these things, and I appreciate what you have had to do here, plus the Legislature has recognized this as priority effort and that is where the dollars came from.

If there isn't much in the way of discussion, or any discussion, the Chair would entertain a motion to adopt Resolutions 98-24, 98-25, and 98-26, which is move the staff recommendation.

I have a motion made by Supervisor Silva, is there a second?

A second by Dr. Friedman. Thank you.

Any other discussion that we need to have?

We will do a voice vote with an abstention put

forth by Mr. Parnell.

With that, all of the Board Members in favor of approving these three Resolutions, say aye.

Any opposed?

Very good. Thank you.

Again, thank you, to staff. What we will do then, we have two more items.

One is a public comment period, which will be the last item. The sixth item, what I will try to do is get through the staff presentation.

It is my understanding that Mr. Loscutoff is coming; is that right?

Bill, we will pause a moment while you sprint down the aisle there. The next item is 98-5-6, a Public Hearing to Consider the Adoption, Amendment and Repeal of Regulations Regarding Certification Procedures and Test Procedures for Gasoline Vapor Recovery Systems, the 1990 Federal Clean Air Act amendments directed the U.S. EPA to require vapor recovery systems for gasoline dispensing facilities in each of 37 major metropolitan regions in the U.S.

This, of course, will be used to assist in attaining the Ozone Ambient Air Quality Standard.

However, California was the first to require vapor recovery at gasoline dispensing facilities, with California districts beginning the Program in the early 1970's.

By 1977, the ARB adopted the first set of

certification test procedures for vapor recovery systems, including those for bulk plants, terminals and cargo tanks.

The vapor recovery procedures are periodically

updated to keep up with new technology, the last such update occurring in 1996.

We will consider revisions proposed to deal with the interaction of dispensing equipment vapor recovery systems with vehicle of onboard refueling vapor recovery and other new developments.

So at this point, Mr. Kenny, would you please introduce the item.

MR. KENNY: Thank you, Mr. Chairman, and Members of the Board.

The revised procedures we proposed for adoption today have been written by our Monitoring Laboratory Division.

They represent the work of the staff of that Division, as well as the efforts of many other groups, including our Compliance Division, which certifies vehicle recovery systems, the businesses which manufacturers sell volume use such systems and the companies that use these systems and the local districts, which have primary authority for permitting the operation of and enforcing the performance requirements for such systems.

There are two main objectives for this proposal. One is to adopt a procedure to determine compatibility of

vapor recovery systems with onboard vapor recovery systems on vehicles, which were introduced in the 1998 model year.

The second is to provide a temporary exemption for airport refueler cargo tanks to allow safe annual leak tests for these tanks.

Staff has also taken this opportunity to make several modifications and clarifications to the existing test procedures to improve their effectiveness and safety.

At this time, I would like to turn the presentation over to Cindy Castronovo, of our Monitoring and Laboratory Division, who will review the staff's recommendations.

Ms. Castronovo.

MS. CASTRONOVO: Thank you, Mr. Kenny. Good afternoon Chairman Dunlap and Members of the Board.

I am pleased to present our proposed revisions to the Vapor Recovery Certification and Test Procedures.

Our presentation will begin with an introduction to the Vapor Recovery Program, then will focus on our proposed revisions to the Vapor Recovery Procedures.

After that, I will discuss our outreach efforts to effected parties and finally, provide information on economic and environmental impacts of our proposal.

Vapor recovery is a control strategy for reducing hydrocarbon emissions during gasoline refueling and transfer operations.

The Vapor Recovery Program was initiated in the

early 1970's, to reduce the formation of ozone in

nonattainment areas.

In 1987, the use of vapor recovery systems was expanded statewide as part of the ARB's Air Toxic Control Measure for benzine emissions.

In California, uncontrolled hydrocarbon emissions from gasoline marketing operations are estimated at 450 tons per day.

Vapor recovery systems reduce hydrocarbon emissions by an estimated 410 tons per day, or 150,000 tons per year and save 49 million gallons of gasoline annually.

Gasoline vapor control systems also reduce exposure to benzine, reducing benzine cancer incidents attributable to gasoline vapor exposure by an estimated 83 percent.

Now I will discuss our proposed revisions to the vapor recovery procedures. These test procedures are used by the ARB to certify systems, and some are used by districts for ensuring compliance with performance specifications.

We propose to add a new certification test procedure to check for ORVR compatibility, ORVR is Onboard Refueling Vapor Recovery.

We are requesting a temporary exemption for airport refueler cargo tanks to allow them to conduct their annual Leak Decay Test safely and legally.

A second new procedure, the Tie Tank Test, was requested by the districts to ensure that gasoline dispensing

facility underground storage tanks are connected correctly.

Finally, we propose several improvements and clarifications to the existing test procedures, which result primarily from both agency and private tester comments regarding their use.

Onboard Refueling Vapor Recovery, or ORVR, was discussed before this Board in May of 1995. At that time the Board decided not to seek a waiver from the Federal ORVR Program, although California already lead the nation in Phase II Vapor Recovery Implementation.

ORVR is being phased in over the next several years. This slide shows the implementation of ORVR for light-duty vehicles. Light-duty trucks and medium-duty vehicles will also be subject to this requirement.

Using historical vehicle turn-over rates, we can estimate the penetration of ORVR vehicles in the California fleet over the next several years.

This chart indicates that five years from now over half the vehicles on the road are expected to be equipped with ORVR.

Before we discuss the ORVR Test Procedure, I would like review the Phase II Vapor Recovery Process at a gasoline facilities, or service stations.

When fueling a non ORVR vehicle, vapors displaced from the vehicle tank are routed back through the nozzle into

the underground storage tank.

The original Phase II Systems were balance systems with booted nozzles, which relied on a seal at the nozzle fill pipe interface to recover the displaced gasoline vapors.

The newer Phase II Systems are bootless and use a vacuum pump to draw in vapors into a series of holes in the nozzle.

We concerned about the possible increases in overall emissions when using the vacuum assist systems while fueling and ORVR vehicle as we have two devices seeking to control the same emissions.

Instead of the vapors being returned to the underground tank, the vapors go into a carbon cannister on the vehicle.

As the vapors are no longer available at the nozzle, the assist system will draw air into the underground tank.

Gasoline will evaporate into the air leading to vapor volumes exceeding the capacity of the storage tank.

These will result in fugitive emissions unless controls are present. The proposed ORVR Test would be added to the existing series of tests required for Phase II equipment certification.

The Test Procedure has two options, depending on vapor growth would be controlled. The applicant has the

option of either limiting the air injestion while fueling an ORVR vehicle, or by controlling emissions from the underground storage tank.

Although we cannot, at this time, quantify the emission impacts of ORVR, we believe that based on our previous analyses and related field studies, that significant potential increases in emissions will occur as ORVR penetration increases.

Thus, we are proposing that the new ORVR Procedure be adopted to apply to new and revised certifications at this time, and that we return to you next year with a complete emission and economic analysis, and a recommendation on how to address existing certified systems.

We do not feel that we can continue in good faith to certify systems which are not compatible with ORVR based on the limited data we have, however, we also recognize the substantial investment that the service station operators have made for Phase II Systems, and want to carefully consider any action that may require replacement or retrofit of those systems already installed.

Our second item proposes a temporary exemption for airport refuelers. An airport refueler is defined as a cargo tank which has a total capacity no greater than 2,000 gallons, exclusively transports afgas and jet fuel and is not licensed for public highway use.

As part of their annual certification, all cargo tanks must undergo a Pressure Decay Test to check for leaks.

However, for safety reasons, gasoline vapors must be removed before the test is conducted. The test procedure prohibits venting vapors to atmosphere and most cargo tank operators can satisfy this requirement by venting to a loading rack control system, or loading with diesel fuel just before the test.

Airport refueler do not leave the airports, and most do not meet the Department of Transportation, or Motor Vehicle Code Requirements to travel on public roads.

They cannot switch fuel with diesel due to the danger of afgas contamination. Thus, airport refueler must seek variance relief to vent emissions legally before the test.

This exemption will expire when at least two ARB Certified, Mobile Vapor Processors are available.

These Processors would travel to the airports and thus could be used to degas the airport refuelers of vapors off-site.

Several other changes are proposed for remaining procedures. The Tie Tank Test is a proposed new test procedure to check for proper underground plumbing configurations at gasoline dispensing facilities.

This procedure was requested by several air

pollution control districts to assist with their inspection

of permitting of gasoline dispensing facilities.

One test procedure was redesigned to reduce tester exposure to gasoline vapors and reduce the number of test runs.

Other improvements include clarifications to the test procedures as requested by private testers, districts and ARB staff, who use these procedures.

Some test method issues have not yet been resolved, including the Pressure decay Test used by districts for compliance purposes.

Although we are clarifying the language of the present Pressure Decay Test, we are committed to working with the districts to further evaluate this particular test method and to develop accurate methods that will best ensure ongoing compliance of vapor recovery systems.

Two workshops were held to solicit input from affected parties. The staff would like to acknowledge the assistance provided by the CAPCOA Vapor Recovery Technical Committee, particularly the Bay Area Air Quality Management District and the San Diego Air Pollution Control District, who provided original drafts of some of the proposed procedures.

We also appreciate the comments and suggestions from the equipment manufacturers, independent testers and

industry associations.

I have already mentioned the limited application of

the proposed ORVR Test Procedure to ensure existing certified systems are not subject to replacement or retrofit at this time, however there will be increased testing costs estimated at $5,500 to a vapor equipment manufacturers who choose to submit a new application for certification.

This is a one time certification cost to the Phase II equipment manufacturer to conduct the ORVR Compatibility Test.

We expect hydrocarbon emissions of a tenth of a ton per year as a result of the Airport Refueler Exemption.

We are working to quantify the emissions associated with the introduction of ORVR and will return to the Board next year and recommend further action if warranted.

In summary, I would like to point out the consequences of not adopting these proposed revisions.

Delaying use of the ORVR Compatibility Test Procedure will allow continued certification of systems which expected to lead to increased emissions, though how much of an increase is not yet known.

Denying the Airport Refueler Exemption will force these cargo tanks to discontinue operation or operate in violation of the law.

If the method revisions are not adopted, some

confusion will remain regarding method requirements and safety improvements would be lost.

As I close my presentation, I would like to draw

your attention to the package of recommended 15 day changes, which has been provided to you.

We have made several minor technical revisions based on comments received during the 45 day comment period.

That concludes my presentation.

CHAIRMAN DUNLAP: Mr. Oulrey, do you want to give us an overview of the Ombudsman's view of this effort?

MR. OULREY: Yes, Mr. Chairman.

Staff proposal was initiated in the first half of 1996, and it was developed after months of communication with the effected stakeholders, that is over 800 interested parties, such as owners and operators of service stations, boat plants, terminals and cargo tanks, representatives of trade groups, local air pollution control district personal and vapor recovery equipment manufacturers.

Over 800 interested parties were invited to public workshops conducted in Sacramento on October 30, 1997, and January 15, 1998, for all of the proposed procedures that are before you today.

The workshop notices were placed on ARB's Website. 180 comments were received in association with the first workshop, and ARB's staff comment response document was made

available at the second workshop this past January.

Eight comment letters were received in association with the second workshop. Staff also participated in related meetings, such as the ARB sponsored Onboard Refueling Vapor

Recovery Working Group in June and October of 1996, in Sacramento, the CAPCOA Subcommittee on Vapor Recovery, April of 1997, in Santa Barbara, and in September of 1997, in Monterey, also in April of 1998, in Fresno.

The Society of Automotive Engineers Task Force and two vapor recovery training seminars, March 3, 1998, at the South Coast AQMD, and March 6, 1998, in Sacramento.

In conclusion, all stakeholders have had ample opportunity to participate in the development of these test procedures.

CHAIRMAN DUNLAP: All right. Very good.

What I think I would like to do, if the Board will agree, is take our break for lunch now, 12:30, and we will come back between an hour and an hour and 15 minutes.

We will return back at 1:40. Okay.

I must apologize. I am going to lose one of my Board Member colleagues, who has an event he must attend, so we are going to lose one Board Member, or otherwise I would, if we didn't have some folks waiting I would just grind through it, but we will break now, be back at 1:40, and we will proceed.

We'll have questions from the Board, and we have four or five witnesses. It is also my understanding, Mr. Kenny, that there is some ongoing discussion with some of the witnesses, and if we need to revise the list just let Ms. Hutchens know.

We will now take a break until 1:40.

Thank you.

(Thereupon the lunch recess was taken.)

A F T E R N O O N S E S S I O N

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CHAIRMAN DUNLAP: Okay. If I could get the folks the take their seats.

While the Board is taking their places, I think that what I am going to do is run through the witness list.

I have four names on this current list, Ms. Hutchens, and I am told there may be some more added.

So we will ask Mr. Healy, Mr. Tiberi, Jeff Trask and Don Leininger to come forward, sit in the front row, if you would, and we will run through your testimony quickly.

Gentlemen, I know you have probably come great distance to speak to us on this matter, and I appreciate that.

However, I ask that you be as efficient as possible with your testimony, so that we might be able to get this item dealt with by our Board.

Mr. Healy, could I get you to come forward first, sir.

You are with Healy Systems. I think I have seen your System before, maybe in San Diego, a couple of years ago. I think it was on a Beacon station, or Ultramar station, or something.

MR. HEALY: Good afternoon, Mr. Chairman and other Board Members.

My name is James Healy, and I'm founder of Healy Systems.

We are based in Hudson, New Hampshire, and we produce vapor recovery equipment, and that is our sole product.

My purpose here today is to address the issue of the application of new test procedures for ORVR vehicles, and

the systems that will service them in an attempt to keep Phase II Vapor Recovery at an efficient level.

One of the things that happened to our company last year was that the first phase of this evaluation process, ARB was looking at customer convenience, can a customer fuel a vehicle conveniently without any type of difficulty in accomplishing that task.

In February of 1997, all of the stationary systems were put through that test using stick cars and those factory items that were available to assess the problem.

We went though and had a problem with about 25 percent of those vehicles. We were decertified on two nozzles, 200 nozzle and the 400 nozzle, based on premature shut-off.

On premature shut-off, it was a direct result of a feature in the nozzle that is a requirement of the Air Resources Board, that is, to provide a safety feature when refueling a vehicle so that you couldn't have excess vacuum.

We worked very hard to correct that problem, not only to correct the compatibility side of it, but to look at the efficiency side of it, and based on the then control measures that were in place, that is what we were going to move forward aggressively and have the new tests and have the implications that that would imply.

We solved the problem for our own products by looking at the fuel pipe pressures and determining in doing

that what type of vehicle we were fueling.

So, we had a smart interface developed that could see the difference between a standard vehicle and an ORVR vehicle, and modify the rate of return so that we could have an efficient Phase II operation, so that we would return very little air to the underground tanks whenever we were fueling that class of vehicle.

As time went on, and to this year, and we have a much different part of the program in view now, and that is how efficient are these systems?

It is pretty well-known, or understood, by people in your Agency, as well as people in the industry, that assist systems will by and large fail the 95 percent efficiency criteria.

We were willing at the beginning to sign off on that. We put a great deal of effort and a great deal of our company's resources into solving the problem.

Now we are in the situation where the Board is suggesting that the existing systems, all those that are presently set in, will not be required to prove that they're efficient with ORVR refueling.

We went through that effort with a lot of expense, on the basis of the Board's position with regard to moving forward on this Program with ORVR, and now it is a dramatic shift away from that.

We decided to look into, what does this mean in

terms of cost in the service station and cost in terms of tons recovered, because we wanted to put down some sort of information that your Agency, as well as ourselves, could look at to get a picture of how effective was what we were doing from a technical standpoint, to conserve the efficiency at the station level at a reasonable cost.

So, to show you what we have done, because we didn't have sufficient information to do an adequate audit in a short period of time, we decided to look at a typical service station.

Show me the next slide here. That is a diagram, which perhaps isn't clear enough in the room to have you make out the actual numbers, but what it does is to assess the operation of a service station.

In the case of the mathematics and the science that we went through, we took a look at the year 2000, with

approximately 25 percent ORVR penetration, and based on assist systems not recovering the hydrocarbon vapors that were going to be generated by returning air whenever you are refueling an ORVR vehicle, returning that air to the underground tank, what kind of vapor growth will we have and what kind of losses will we have to the environment.

We were frankly surprised to see the magnitude of the numbers. The top graph shows from 50,000 to 200,000, which shows the relative tonnage of hydrocarbons lost to the environment progressing from left to right from 1997 to 2009.

This is Figure 1 on page 4. Figure 2 is actually just a reference to let you see what the magnitude would be at a thousand service station level, and currently in the State, mu understand is that there are over 2,000 stations with this class of equipment.

So, looking at that calculating point, that 150,000 through-put, we come out with 1,150 tons of hydrocarbons per year in the year 2000 per thousand stations, so we would be looking at something very close to 2,500 tons of hydrocarbons to the environment in the year 2000, just around the corner, per year, per year, per day would be magnificent.

At any rate, it serves to show the magnitude of this problem, and it also serves to show what you are building in as a potential new source of hydrocarbon

pollution by allowing presently designed systems to stand as existing service stations, and a further part of the proposal as suggested in the Hearing Report is that those systems would be forever exempt and there would therefore be no incentive for manufacturers like ourselves, or dispenser manufacturers who have other types of systems, to develop a solution for ORVR.

You would have this ongoing source of pollution, which at some future date would perhaps be addressed for correction, but the longer that it goes, the more expense is associated with that and the more hydrocarbon goes into the

environment.

To address the relative expense level, if you could turn to page 5, this chart will show the cost per ton of hydrocarbons saved.

The left coordinate is essentially zero ORVR. It is 1997, and you'll notice in the lower left, there are two figures there where the curve coming our to the right and heading upwards, and the lower line intersect at the zero point, and they have essentially the same numbers associated with them.

The one that heads upward is your present day Assist System, and what the cost per ton would be to recapture hydrocarbons by leaving it in place in its present configuration.

It is very easy to see how rapidly that cost per ton rises. The reason for it is that not only do you not have the nonORVR vehicles available to recapture hydrocarbons, but you are also throwing it into the environment, the hydrocarbons, that result from air during the refueling process in ORVR vehicles, so it quickly gets out of sight.

The lowest of these curves, a straight actually, starting at that same point shows an Assist System implemented with the type of technology that we have developed for our product line, but it will work with anybody else's assist system, as well.

It provides a smart interface that enables the system to recognize this is an ORVR vehicle, and it shuts down the vapor flow, or in this case, air flow, and thereby meets the criteria that CARB has set tentatively in place of not exceeding 50 percent by volume pure air return into the underground tanks.

These costs rise slightly, but it is due to the fact that we have progressively less and less hydrocarbons and higher concentration to recover from the nonORVR vehicles.

The next page, page 6, it shows the relative costs if we net out just the changes that would be required in order to upgrade a system, the current system, to a system

that had this newer technology to be able to identify ORVR vehicles.

Therefore, we are looking here at the difference in cost between present day vacuum assist nozzles and a nozzle of the 800 series that Healy is now manufacturing that will work on other systems.

That difference in cost is quite slight, and if you will apply the savings that would accrue because you are going to be not dumping these large quantities of hydrocarbons into the environment, you will actually find that your cost per ton, based on a net cost base, is exceedingly small, indeed well below many of the systems that are currently in place and approved by your Board.

BOARD MEMBER EDGERTON: Show me where and how much. Is it on the chart?

MR. HEALY: If you look at the left-hand curve, that shows costs starting at about $738 per ton in the year 1998, and diminishing, and actually crossing the zero cost line in 2000, sometime between 2000 and 2001.

That is based on a four year life for the nozzle. There is also another curve which shows the effects on cost of a life of two years per nozzle.

I suspect in the real world that somewhere in between those two curves is where we are going to actually come out.

What it does tend to illustrate is that rather than having costs that are going to be a significant burden to the end-user, they will, in fact, crossover that zero line and be actually gaining money for the end-user in the form of gasoline saved that would have otherwise have gone into the environment.

In view of the savings and tons of hydrocarbons, and in view of the low costs related to this type of answer to the ORVR smart interface problem, we strongly suggest that the Board move in the direction of applying a standard rule of the new tests with a six month window for all systems to apply that hundred car test and the new ORVR test and prove that they have the necessary efficiency to continue to meet the 95 percent recovery rule that you have had in place these

many years.

We want a level playing field in this regard. We have done our best to respond to the Board's wishes regarding what we thought was their intentions a year ago, and more.

With that expenditure of resources, we have a solution, not that there won't be other solutions, we think there will.

Unfortunately, at this time there are not apparently signed up very many companies who have a system that they are willing to submit to test, but that doesn't mean that it isn't going to not happen in the next several

months.

If the Board would decide to move ahead aggressively, staying to its usual pattern of requiring new testing when the new conditions change for stationary vapor recovery, that new answers for this problem would surface.

I will be happy to answer any detailed questions that you may have in this regard. We do have one other slide, if you could bring up the next one.

This particular table shows that there are gains to be made when you net out the costs, and it reflects on the chart we viewed earlier, giving you actual numbers that are related to the simple exchange of a nozzle for an existing nozzle, and on that point, I would encourage the Board to give consideration to a policy that I know is not a favorite to consider, but I think in this case, it has the possibility

to work to everyone's advantage, and that is to permit mix and match, and in this case, I think, it has a lot of validity.

The end-users have spent in good faith a great deal of money to put in place Vacuum Assisted Vapor Recovery System.

They are not being adequately used to the point that their capital investment is being effectively used if they are not going to be permitted to use these nozzles until they are worn to the point where they need to be brought to a

factory and rebuilt.

The type of technology that we bring to this problem wouldn't permit the use of a nozzle, let's say, on only the regular gasoline in a service station.

The customer has a preference for about 80 percent of the fuel that is sold here to be regular gasoline, and in that event, only one-third of the nozzles are being replaced, but since it represents 80 percent of the gasoline, and these nozzles will only return a very small percentage of air compared to the liquid delivered, it provides a great deal of residual space underground to take the air that will be ingested by the other two products when they are refueling.

So, for 10 gallons dispensed from an 800 nozzle, less than two gallons of air will return, but 10 gallons dispensed from the existing nozzles they have, there will probably be 11 gallons return.

So, the combination of removing 10 gallons of liquid and having the residual eight gallons left from other sales with the 800 style of nozzle, you can cover the vapor growth that is going to result from fueling with the other two product types of nozzles.

In this manner, you could allow the service station owner to gradually use the life of the nozzles he currently owns, since they would be decertified, and presumably, would fall within your four year grandfathering provision, and as

they wear out he could replace with the newer technology.

In that way, he have maximum advantage for the capital of the equipment that he's purchased. He would use the nozzles to the extent that they were workable, and he would enter into an ORVR compatible technology with extremely low cost.

CHAIRMAN DUNLAP: Well, Mr. Healy, I want to move on here. I want to see if we have any questions for you.

Ms. Edgerton.

BOARD MEMBER EDGERTON: No. I will ask staff.

CHAIRMAN DUNLAP: Thank you. I appreciate that.

So, based upon Mr. Healy's presentation, staff, where is their disagreement with your proposal and what he has outlined?

MR. LOSCUTOFF: We agree with most of Mr. Healy's statements. Many meetings and field studies have been done to evaluate the effects of ORVR compatibility.

He, in developing this analysis, he made several assumptions about what the emissions might be and what the costs may be.

We have not, we feel, collected enough data to verify those assumptions. We have ongoing research projects, and as we said in our presentation, we would like to wait until that firm emission data is in and that we are able to collect economic data from all effected parties before we

would proceed.

BOARD MEMBER EDGERTON: May I ask a question?

CHAIRMAN DUNLAP: Sure.

BOARD MEMBER EDGERTON: His presentation, Mr. Healy's presentation, did seem like a win, win, in that there would be hydrocarbons, 2,000 tons that would not go into the air per year, and there would be savings for those people, those stations where they replace their systems.

I don't understand why your proposal doesn't include his analysis and why -- I don't understand why you limited the proposal before us, and why it didn't take this into account, since you have been working with him all along?

MR. LOSCUTOFF: We don't disagree with the analysis.

It is the level of data presently available to verify assumptions that have been included in the analysis, and soon as we can verify those assumptions, we fully expect to come back to the Board, and hopefully, the analysis will

be confirmed and we will be able to take the appropriate action to get into this win, win situation.

BOARD MEMBER EDGERTON: So, if I am understanding you correctly, it is, again, we see this often, it's a problem of timing, to some extent.

For example, I left lunch early to come back and try to read the lawyers letter and try to understand this

report.

It says it was prepared May 21, 1999, and then the letter was delivered to us this morning, so part of it is that there just isn't enough time and it should have considered the information that they had collected prior to the 45 days for the other, for the new systems, is that what's behind the delay in this not being included in it?

MR. KENNY: I think that part of the issue here is that as we do our regulatory proposals, what we have to do is make sure that, in fact, we do both the environmental assessments and the economic assessments.

Mr. Healy has done an economic assessment in which he is showing that there is a win, win for both parties.

That economic assessment may actually bear out, but at this point in time, we have not yet concluded our required economic assessment under State law, so that we can, basically, validate that he is, in fact, accurate.

Once we conclude that, we will be prepared at that point to come back to the Board and take advantage of win,

win opportunity if, in fact, the assumptions that are in that economic analysis are verified.

BOARD MEMBER EDGERTON: Just to follow-up a minute here, he did say that it was his impression that the old, or the existing systems would not ever have to be replaced under our plan.

So, if I understand you correctly, that is not true, and you are planning on giving his system the full analysis by the staff, which he has already done, tracking his, verifying his and coming back to this Board with proposals that are appropriate for the existing fuel recovery systems.

MR. LOSTCUTOFF: That is correct.

We have a study in progress right now that, which hopefully will be completed by this summer, and when we have the data quantifying both the environmental and economic benefits and costs, then we fully intend to come back to the Board as quickly as we can.

BOARD MEMBER EDGERTON: When is the research report due?

MR. LOSCUTOFF: This summer.

BOARD MEMBER EDGERTON: So, would you anticipate coming back to us before the end of this calendar year?

MR. LOSCUTOFF: We would want to workshop the costs and the emission benefits, and go through that public process, so it would be very difficult to get back before the

end of the calendar year, but we would endeavor to back as quickly as we could.

MR. KENNY: I think that in terms of trying to provide some definition to that, assuming that we have the information available to us in mid-summer, I am just going to

pick July fifteenth as a representative of that, it would take us at least some period of time to assess that information.

Assuming that we could do that in, say a month, or a month and a half, we are then into September. We will have to at least workshop the information so that the public has an opportunity to participate on both sides of the issue.

Once that is completed, we then have an opportunity, we actually have an obligation to put together a staff report, which puts forth our recommendations and proposals for the Board.

That staff report has to be put out, essentially, two months in advance of any Board hearing, so I think when you run all of those timeframes together, it would be almost impossible to get a proposal to the Board in 1998.

BOARD MEMBER EDGERTON: But you are committed to capturing. I thought it was very exciting, what he said, that this was a way to have a win, win, so I appreciate your answers.

MR. KENNY: We like win, win.

BOARD MEMBER EDGERTON: I know you do.

CHAIRMAN DUNLAP: Okay. We have got eight other witnesses.

So that the Board is not confused, I am going to ask each of the witness to talk about where they stand on the

proposal.

Mr. Healy did a fine job, but I personally am having a little bit of time tracking it back to the staff proposal, so I need the rest of the witnesses to be able to specifically identify where they are relative to the staff proposal.

Mr. Tiberi and Mr. Trask, next, and then Mr. Leininger, Mr. McDowell, Mr. Hartsell, Mr. Bisker, Mr. Fink and Mr. Kovack.

If you would all line up in the front row, we will get you on, soon.

MR. TIBERI: Thank you, Mr. Chairman, and ladies and gentlemen of the Board.

As an entrepreneur, I'm not really experience addressing a public forum, but I'm happy to come out here from Chicago.

I am a founder of the company called ARID Technologies. I started the company five years ago to commercialize membrane technology that was developed initially in Germany.

I have served on three CARB subcommittees charged with investigating ORVR Stage II interactions, and I have

actively participated in numerous CAPCOA technical sessions.

To give you an idea, ARID designs and manufactures membrane base systems for bulk terminals in retail gasoline

stations.

Really, I am here today for three reasons. I outlined the discussion items that I wanted to cover, and I think in the discussions that have taken place so far, they have largely been covered.

First, I wanted to make some comments that are based on engineering and scientific principles regarding storage tank evaporation losses.

I think Cindy did that very well with her graphic. It is well-known that air ingestion into storage tanks creates volume growth, pressure builds and emissions are generated from the tankage.

I also wanted to support quantification of evaporation losses using automatic tank gauge technologies.

There has been some history of various testing protocols that have been attempted to measure and monitor very accurately, using a mass balance, the emission from a given storage tank system.

You look at some of the trends in the industry today, automatic tank gauges were used initially for inventory reconciliation to monitor leaks.

Those tank gauges are so accurate that vendors have used those now to schedule deliveries and to do business

management, to use these tools as a business management tool.

It just so happens that the accuracy of these

gauges are such that they can measure daily evaporative losses from horizontal storage tanks.

Our models predict values, that are in your notes, on the various tables, and I won't go through the details now, but the losses that a 150,000 gallon a month station would incur are on the order of eight gallons a day.

That would need the measurement of on the order of three hundredths of an inch in an horizontal tank of 10,000 gallons at half height.

Commercial vendors claim a measurement accuracy of a thousandth of an inch. So, the technology is there, the point is the technology is there to accurately monitor and measure evaporation losses.

The third point, I also wanted to get an idea of the timeframe of the Arrow Environment Study. I think that has kind of been covered, as well.

The Study has been talked about since March of 1993, and here we are in May of 1998. We are still expecting results.

That Study would be a key input into the measuring stick of being able to accurately quantify the economic impact of vapor recovery.

I also would like to briefly go through some of the points that haven't been covered. I won't go through all of

my comments, but just some highlights in the handout that I

have provided.

From a fundamental technical level, I think we are all in agreement that air ingestion into tanks causes vapor growth and evaporation.

That air ingestion can enter, either through a pumped vapor recovery system, or through natural convective entry through the vent lines.

Whether or not the vent lines contain PV valves, pressure vacuum valves were really an artifact of increasing Stage I Vapor Recovery efficiencies, i.e., bulk tank, or balancing during the drop.

I made the point also about .8, on page two of handout, automatic tank gauges, I think should be seriously looked at in the future work that is being done.

On the .9, I would like to suggest a linkage --

CHAIRMAN DUNLAP: I need you to relate it back to the proposal, because I think, I mean, I think some of this group thinks that the Board is intimate with every small segment of this discussion and that would be a false assumption.

So what I need you to say is, staff says this, we think this, that way we can track it, by the way, you are doing very well for a first time testifier, so relax.

MR. TIBERI: I am a real testifier here.

In terms of the staff proposal, the talk is for

getting the results from the study, which impacts Mr. Healy's presentation and just everyone else's in terms of quantifying what the differential in inventory is.

If that study uses rather sophisticated vent sensing technologies that are very hard to figure out what is going on it, it is more difficult than using just a standard automatic tank gauge to take a close look at temperature corrected volumes and getting a real good handle, for the first time, a handle on the inventory balance, the mass balance, measuring what was delivered to the station by tanker, measuring what the meter said were sold and measuring the level, the residual level in the tank, basically doing an inventory reconciliation, a very accurate inventory reconciliation.

CHAIRMAN DUNLAP: Okay.

MR. TIBERI: I would also like to suggest, there was recent studies done in the San Francisco Bay Area, San Diego County and Monterey Bay Area regarding A over L ratios.

A over L ratios, for the Board, are the ratio of air returned by these systems divided by the volume of liquid dispensed.

It's a measure of the effectiveness of the pumping system recovering vapors from the vehicle. So, an A over L of a certain number for a certain system means everything is fine, the system is operating properly according to

certification.

A random test of systems installed in these various areas revealed a failure rate of 30 to 88 percent, pretty significant numbers, which basically said, these systems weren't performing properly as certified.

A lot of those failures are due, indeed, to hanging hardware problems. Hanging hardware means the stuff that comes out of the dispenser, the host, the nozzle, the break away, that is hanging hardware.

Some issues there are with condensation, kinkage, not related to this action of the Executive Officer.

The reason that I bring that up is that I suggest a linkage between some of those failure rates, the numbers were failing low, the A over L's were below the proper ratio.

When you take an increased tank pressure in the storage system and you couple that with a small vacuum pump, or a centralized vacuum pump, the vacuum pump has to fight against a higher back pressure to function, and when that happens, the suction capacity is reduced.

So, an artifact of higher tank pressure in addition evaporative losses and fugitive in vent losses, is a reduced suction capacity of the nozzle, which could explain, in part, some of the high failure ratio.

I would just like to conclude by talking about a couple of economic issues.

The consensus, the feeling is that modifying existing systems, retrofitting existing systems with processing technology is a negative net present value proposition, that there is a cost per ton as opposed to a revenue per ton.

I say contrary, I say au contraire, there is indeed a net present value that is positive. In the handout that I have given, Table 1 calculates a 16 percent IRR for a station pumping a 150,000 gallons a month that installs our Membrane Based Vapor Recovery System.

The savings in salable product far outweigh the expenses incurred, so there is, indeed, a potential to pay back these systems, and it is a true win, win.

The environment is clean, and the end-user is rewarded for their installation by generating a positive NPV.

Moreover, the municipalities benefit because they collect higher tax revenue. The evaporate losses for marketers who are reporting meter volumes, you are not collecting taxes on those volumes because they don't have that volume to sell, so that's an increased revenue source, not only for the end-user, but for the municipalities.

I would go one step further in terms of some really kind of futuristic, forward thinking programs relative to emission reduction credits and discreet emission reductions, DRS, there is a market for trading these credits.

In fact, the State of California just adopted such a market recently, well, in certain areas. There, for $2,000 a ton, VOC, the emission reduction credit, IRR's go from 16 percent to 100 percent for this type of application.

Given the fact that we have six other commenters, and I'm out of gas here, I think that I will conclude my comments.

CHAIRMAN DUNLAP: Thank you, Mr. Tiberi. I appreciate your comments.

Now, staff, he made some suggestions there. How does it relate to the staff proposal?

Are we in synch?

Are we not?

Plus he seems like he's a pretty good guy. He has been serving on your advisory committees and CAPCOA. He should have some insight.

So, are we in synch with what Mr. Tiberi thinks is a priority?

MR. LOSCUTOFF: We are interpreting his comments as being supportive of moving more quickly, similar to what Mr. Healy was proposing, and we have the same comments that we made with respect to Mr. Healy's statement.

CHAIRMAN DUNLAP: Okay.

BOARD MEMBER EDGERTON: May I ask a question?

CHAIRMAN DUNLAP: I notice, Mark, that when he was

talking about revenue enhancement at the local level, Mark

was rocking in his chair and he was going a little bit faster, is there any -- he had a concept there that he presented about revenues and more efficient system, is that, do you agree with that?

MS. CASTRONOVO: I think the point he was making is the more gasoline vapor that you can recover with your system, then the more product that you can have come back into your tank.

CHAIRMAN DUNLAP: Okay.

BOARD MEMBER EDGERTON: I thought he was actually going a little bit farther in saying that some of our programs could be designed to perhaps give incentives, I wasn't sure if that was it for market credits, as well, I didn't know if that's what he was doing.

BOARD MEMBER RIORDAN: He's shaking his head, yes.

BOARD MEMBER EDGERTON: Oh good. I didn't make a fool of myself.

One question, I was, the staff could help me on this, on the Arrow Environment Study that has been apparently going since 1993, is there a difference in the way that the Study is measuring the disparity?

He laid out a very simple way that even I could understand how you would measure what was lost and gained there, and the implication for what he said was that perhaps

the research air that Arrow Environment was doing had a more subtle, but less repeatable kind of measurement system that

would not be particularly helpful, or as accurate as what he identified.

MR. LOSCUTOFF: We are in the process right now of reviewing the progress of the Arrow Environment Study, and this is something we will take back as we look at exactly what is being done.

There is tests that are being conducted right now, as I understand, so we will be considering what he has suggested and comparing it to exactly what is being done.

CHAIRMAN DUNLAP: All right. I don't know why it is taking so long for this Study, was it 25 year Study or something?

MR. CACKETTE: No.

It was protested twice and had to be reissued three times before it was awarded.

So the Study has only been underway for less than a year.

CHAIRMAN DUNLAP: Arrow Environments, they do terrific work most of the time. Mr. Trask, from API and WSPA.

We had a nice visit with Mr. Wang, you aren't going to do anything to impact that, are you, today?

MR. TRASK: I wasn't planning on it.

I'm Jeff Trask, and I am with the American Petroleum Institute in Washington D.C.

I am pleased to be here today to testify on behalf

of both the API and the Western States Petroleum Association.

Our Associations represent members of market gasoline which use Phase II Vapor Recovery at thousands of retail gasoline outlets in California and across the country.

This testimony today supplements written comments that we filed with the staff on the procedures of the April third staff report.

We are resubmitting those comments to day for your consideration. I would like to highlight our major concerns with the proposed tests, and starting first with the proposed ORVR Phase II Compatibility Test, TP 201.2D.

Just so you know exactly where we are coming, API and WSPA remain strongly supportive of ORVR. Within a few years, ORVR will be included in new cars and trucks sold throughout the country and lead to cost-effective control of fueling emissions throughout California.

But as many new technologies, potential problems were identified prior to ORVR phase-in last year.

Concerns were expressed that customers could experience fueling difficulties with some ORVR combination Phase II combinations.

Your staff were instrumental in developing and

carrying out a test program to identify potential refueling problems between various ORVR configurations and Stage II systems.

Staff's testing showed most fuelings would be

trouble-free. The Program identified only a few combinations of vehicles and fueling equipment that might cause customers fueling difficulties, and staff worked with effected parties to resolve them prior to the introduction of ORVR equipped cars late last year.

Staff is finding that ORVR would not cause fueling difficulties has been verified by new car customers.

During the first year of phase-in, ORVR equipped cars have been fueled throughout the country without reports of unusual problems.

A similar orderly approach is needed regarding the potential for emissions increases with ORVR Phase II fueling.

The proposed compatibility test addresses a theoretical emissions increase that has not been verified.

As with potential fueling problems identified before the ORVR phase-in, testing is needed to see if the ORVR in Phase II fueling unacceptably increases the emissions.

If so, changes to refueling emissions control requirements should be made only after these three steps. First, quantifying any emissions increase; and second,

evaluating all solutions for minimizing unacceptable emissions increases; and third, determining timing and cost effectiveness of all practical solutions.

Now, I would like to address each of these points, first, for quantifying emissions increases. ARB has

contracted with Arrow Environmental Services to attempt to determine if emissions increase with the combination of ORVR Phase II fueling.

Staff may be able to use data from the Study to estimate any Statewide emissions increase. However, this quantification must take several factors into account, including the ORVR phase-in schedule and differences in ORVR and Phase II System designs.

ORVR Phase II compatibility protocol should not be developed until emissions data show a need. However, we strongly endorse staff's proposal to limit the compatibility test being considered today to new or modified Phase II System certifications.

If adopted, we understand the test would not apply to an estimated 14,000 gasoline dispensing facilities in California, or to those seeking to install equipment under existing Phase II certifications.

If the test proposed today is adopted, ARB should consider modifying the test criteria in the future if data shows emissions are more appropriate than those included in

the proposal.

At this point, I would like to move away, just briefly, from my prepared remarks that you have, and I would like to go to the proposed 15 day changes.

On page 1, under proposed C P-201, which is basically the first bullet item, Certification Procedure for

Vapor Recovery Systems for Dispensing Facilities.

The first point there says, language will be added to require the installation of ORVR compatible vapor recovery systems for new or rebuilt dispensing facilities after the date of adoption of this certification procedure.

We talked a little bit with some of the staff about what that means, and our understanding is that this proposed 15 day change would mean that districts would in effect be prohibited from allowing installation of currently certified Phase II Systems.

That is a complete and total surprise to us. Again, from our prepared testimony, we were under the understanding that existing certifications were not going to be affected by this test procedure, so that those who were interested in installing equipment that had a certification in place, could do so.

CHAIRMAN DUNLAP: Staff, the charge has been made that you surprised folks at the eleventh hour here, how do you plead?

MS. CASTRONOVO: It was a surprise to Mr. Trask.

This suggested change was made in response to a comment received during the 45 day period from a district, and we do support that.

CHAIRMAN DUNLAP: All right. Now do you need a lecture from me about, you know, the position that advocates

find themselves in when they surprised, you know what I mean, and he is here trying to be supportive, but he's telling us he got hit with something at the last minute, so you got to have a rationale for that, so why don't you try it on us right now.

MS. WALSH: If I could make one point, the 15 day notice period does gives folks an opportunity to take this back, look at the change and submit written comment.

CHAIRMAN DUNLAP: Understood, but it has the force of being a staff recommendation is the point that I think he is making.

So, what changed your mind, which district, and what was the argument?

MS. JOHNSTON: Well, the district was the Bay Area District, and one of the interesting things about this proposal is that it would incorporate into the test protocol, or the test procedures, a result that would happen by operation of law at any rate, and the way that this works out

is there is a provision in the Health and Safety Code, 41956.1A, which provides that when any of the agencies involved in the certification of vapor recovery equipment, including the Board, adopt a revised standard, that those systems and components that are certified and installed have a four year grace period for remaining in the field.

So, a system has to be both certified and installed to take advantage of that grace period. So, my

interpretation is that under the districts permitting authority, the districts would be able to prohibit the installation of systems that do not meet the revised standard in any case.

There is one caveat on that, there is another statute, which is 41960 A, which provides that if a district wishes to prohibit the installation of certified system, that they must get the Board's concurrence.

So, what would happen in this situation is a district could come to the Board and say, we want to require that new facilities meet the new certification requirement and the Board could grant that.

What staff is proposing would put that option up front so that everybody would be aware of it right from the beginning, rather than having it, which we think would be more a surprise to manufacturers than offering it as a 15 day change.

CHAIRMAN DUNLAP: Okay. Does that explain it for you?

MR. TRASK: It explains the law to me. We are interested in, of course, what this language is going to look like, because we do not have the language.

CHAIRMAN DUNLAP: You do have a period to do what the district did in that 15 day window, you can get in there and file some comments and have the dialogue with the staff.

MR. TRASK: Well, I suspect it will be easier to

predict the powerball number, that you are going to get some comments on this from our industry, because this is new.

We would encourage you to consider the impact of this both within California and outside of California.

Your program gets looked at, and we think this is another issue that could raise some questions of concern outside of California.

We would, without, again, not having seen the language, but just the concept, that is a concept that we would probably not support.

CHAIRMAN DUNLAP: Okay.

MR. TRASK: The second point is about evaluating all possible solutions. As staff's refueling compatibility testing last year demonstrated, various ORVR Phase II combinations behaved differently in terms of fueling characteristics.

Now, this may also be true for emissions. In fact, there was a recent staff report that showed that there was a significant variation in the vapor concentrations back through the vapor return line to the service station, depending on what the vehicle was, what type of Phase II System it was and how they were operated to date.

So, it really does vary, potentially, quite a bit. So, it is possible that in use together, some ORVR and Phase II combinations may not unacceptably affect emissions, but staff should try to identify those combinations considering

both the vehicle and service stations.

Third, determining the timing and cost effectiveness of solutions. Modifies Phase II requirements for ORVR will likely be expensive, and probably much more expensive than the cost of the staff report's economic impact analysis.

In the report, the cost of upgrading and installing vapor recovery equipment to meet the proposed protocol is estimated at up to $1,500 per facility.

This cost may be low, because we know of no demonstrated effective and economic technology generally applicable to Phase II installations, and much of this cost will be borne by small business.

Some time ago, your staff established a cost effectiveness work group for ORVR Phase II.

We understand it was determined that the cost effectiveness of any refueling emission control system modifications for ORVR before regulatory changes would be made.

Given the potential cost to vehicle manufacturers and fuel suppliers, it is critical for this group to consider the timing and cost effectiveness of various approaches before new requirements are imposed.

I would like to say that I was pleased to see that staff's presentation this morning highlighted the cost effectiveness, the cost issue, for in-place equipment, and

broke it out separately, and we will continue to work with staff on issues of cost, cost effectiveness, regarding regulatory changes in this area.

We do have some specific comments on the proposed compatibility tests. These are documented in the written comments, but I want to point out that the procedure must include realistic test parameters, and we support the flexibility that is included in the proposed test to allow equipment manufactures some alternative procedures under appropriate conditions.

Finally, we have this comment on the proposed amended Vapor Recovery Test Procedure, TP 201.3, API and WSPA support use of the two-inch water column pressure specified in the proposed amended procedure.

We believe a two-inch test is effective and limits emissions that could result from the test procedure.

That concludes my testimony. Thank you for the opportunity to speak.

I will be happy to answer any questions.

CHAIRMAN DUNLAP: Any questions of Mr. Trask?

MR. TRASK: I already missed my flight home, so go for it.

CHAIRMAN DUNLAP: Okay. Mr. Leininger, from OPW Fueling Components.

MR. LEININGER: Mr. Chairman, Board Members. Thank you very much for the opportunity to mention the comments

that I have.

My name is Don Leininger, and I'm an engineer with the OPW Fueling Components. OPW is a manufacturer of gasoline service station equipment ranging from the hanging hardware that you see above ground, the swivels and nozzles, break-away valves, to also the Phase I equipment that you may or may not see, as it is located with the underground storage tank.

We have a concern about one of the proposals for changes to the certification test procedures, in particular.

The proposed new test procedure, T P 201.2D, the evaluation of ORVR is mentioned that this procedure will apply only to new certifications and modifications to the

existing systems that are currently in the market, not existing systems that are only systems that are going to be new for vapor recovery, will they be used and evaluated for ORVR compatibility.

This certainly appears to be a prudent approach, not to require existing systems to be subjected to the test at this time, but rather evaluate the results of the tests that are being completed, as has mentioned in the previous testimony, determine the emission question about ORVR, and then move forward.

However, it is also our understanding that the new components for existing vapor recovery systems must undergo this ORVR test.

As one of several manufacturers of components for the vapor recovery systems currently in use today, OPW feels that this test requirement for components for existing systems will hinder product development and improvement.

If these components are subjected to the ORVR test procedure being proposed on the existing systems today in the field and in the marketplace, it is uncertain if these components would meet the ORVR requirements.

Component manufacturers do not have any control of the design of the system from which their component operates.

Neither do we have any control of what these systems do with the controlled air that they work with.

As an example, recently there have been several workshops throughout the State of California to discuss problems involving assist system concern, that also has been mentioned in Mr. Trask's presentation.

Improvements of the hanging hardware for these particular components to improve the systems and rectify the identified problems, may have a hinderance if required to undergo the ORVR Test Program before they can be approved and certified for use on their systems.

We feel that rather than restricting technology, the improvements of components by requiring this evaluation of components with the 201.2D Test Procedure.

I have proposed a provision be added to the Test Procedure that will offer a means to certify components for

existing certified vapor recovery systems without requiring the application of this 201.2D.

In the letter that I presented to you, and I think you probably should all have a copy, on page 2, my suggestion is that we add the, statement evaluation of new or redesigned components for use on existing certified vapor recovery systems that have not been approved or evaluated for ORVR compatibility, are not subject to this test.

However, the approval may include a statement that the component has not been evaluated for ORVR compatibility.

I would encourage you to evaluate this

recommendation and include the provision in the adopted procedures, should you choose to adopt it.

I think this would afford an opportunity and a means to provide a definitive concrete statement that manufacturers can read and understand and rely on, as to how their development and engineering of product work should move forward to develop and spend money and time to come out to the California, do the test program as outlined by the procedure and then find out that there is a road block that says, well, you need to go through the ORVR Test and the system of which that component has been designed isn't ORVR compatible, so we can't certify your product, certainly doesn't do a lot to encourage further product development and improvements.

So, in conclusion, I would strongly encourage you

to evaluate this suggestion, and I would hope you would see fit to maybe include in either the wording or similar wording in the Test Procedure so that new products, product improvements for existing systems, can still be developed and marketed in the State of California and other parts of the country.

Again, thank you very much for the opportunity to speak to you.

CHAIRMAN DUNLAP: Thank you.

Staff, how do you react to this suggestion?

MS. CASTRONOVO: We agree that improvements in Phase II technology should be approved and implemented as soon as possible.

However, our certification procedure specifically states that the procedures are to apply to the entire system, not individual components, thus we would recommend that we continue to apply the certification procedures only to complete systems.

BOARD MEMBER RAKOW: Does this mean a component manufacturer cannot have a nozzle business without doing the whole system?

MS. CASTRONOVO: When we issued the certification order, it is not for nozzle.

It is nozzle, hose, dispenser, everything that goes along with it.

So, if they come in with a new type nozzle,

normally what has happened is a modification is done to the existing Executive Order, or to the existing certification, and the evaluation of that new nozzle, or that new component, is done using the existing certification procedure.

BOARD MEMBER RAKOW: I'm not following you. I don't understand this procedure.

Can you just tell me in plain language, if I had a nozzle, and I wanted to sell it to station X, how would I get that approved?

MS. McKINNEY: I am Laura McKinney. I am the Manager of the Certification and Investigation Section.

When someone applies for certification of something, for example, a nozzle, the application would say, I would like to have this nozzle certified on this particular system, or on these several systems.

We then require that the manufacturers install the equipment in a service station in Sacramento where we monitor it for a period of at least 90 days and then we run an efficiency test.

So, if you have a nozzle that you would like certified, you would have to go through the efficiency test on each system on which you would like that nozzle certified and then the certification of the system would be modified to add that nozzle to the list of equipment that may be installed with that system.

BOARD MEMBER RAKOW: Thank you.

CHAIRMAN DUNLAP: Okay. Next witness is Mr. McDowell, from Hasstech.

BOARD MEMBER EDGERTON: Back to that point.

In terms of bringing Ms. Rakow's nozzle up, in order to get it certified as part of somebody else's system, do they have to go buy somebody else's system, or do you have service stations here that will corporate with the ARB, so that nozzle can be put on somebody else's system, so then the

nozzle is certified as working with the certified system?

MS. McKINNEY: Generally the equipment manufacturers work together, for example, the nozzle manufacturer and the system, the holder of the certification, the designer of the system, generally work together and bring it to us together, and we work with them both.

If somebody had a nozzle, they would go to the various companies that have certifications and say, we would like to get our nozzle certified with your system, they come in together and they make arrangements with local service stations in the Sacramento area, often they give them the system, or there is some economic incentive for the station operator to allow the testing to be done there.

We don't get involved in that. That is done by the applicant.

BOARD MEMBER EDGERTON: What if the certification system manufacturer had their own nozzle and did not want to cooperate with the nozzle maker, the separate nozzle maker?

BOARD MEMBER RIORDAN: I have got to move to the next one.

MR. LEININGER: Just an example of what we are trying to do.

OPW currently has a nozzle that is being tested on two different systems here in Sacramento for certification.

We go through all the entire testing. We have been

advised that under the current way that the interpretation is being made, we could get all the way up to the starting gate, but we can't go through, approval will not be possible because those systems, if they are not approved to be compatible with ORVR, then we can't get our nozzle approved because it will not be possible that it will pass that ORVR Compatibility Test.

This is where our concern comes from, what incentive do we have to develop new equipment for use on these systems when they potentially may not get certified?

BOARD MEMBER RAKOW: That is the question that I would like the staff to address.

CHAIRMAN DUNLAP: If I might interrupt for just a moment.

What I would like to do is, if the Board is okay with it, I would like to hold this thing over for a month.

There are some issues here that need to be resolved, it seems to me. I think we could benefit from an extra month.

You all have made some good points. The staff -- it appears to me, not to give them too much of a bad time here, but it seems to me that some of the responses are not as crisp as they might be, so what I would prefer to do is to wait another month and give, Mike, give you and your team some time to be able to work through these things, and there

needs to be a process.

Bill, I know you have been working with the CAPCOA Committee, and you have advisory committees.

It seems to me we ought to get our arms around it a little better. For those who have testified to us, you have some very specific issues that seem to us to be a little fine, you know, I don't want to say small, but a little bit focused, and I think that the Board could benefit from the extra time to have staff kind of encapsulate this, Mike, get your arms around it and see if we can come back with some compromises relative to content and implementation, not so much relative to direction, or anything like that.

I don't want to send any false impression to the industry folks that I'm, you know, Monty Hall, and we are willing to "Make a Deal" here, but we are willing to consider some changes if we can get our arms around the issue on this proposal, so I would ask, if my Board colleagues are comfortable with that, let's punt this for a month.

MR. KENNY: May I make a request that in the event that we are unable to essentially resolve these things within

a one month period, if we could add at the outset, a two month period?

CHAIRMAN DUNLAP: Fine.

If the industry is okay with it.

Is a 60 day delay okay?

Staff, are you comfortable with that?

MR. KENNY: I think there are a lot of issues that have been raised today, and I think we would really like to sit down and discuss those issues.

CHAIRMAN DUNLAP: Why don't we plan on that.

Come back in two months, and if you can get it done quicker, Mike, if you can get it done in a month, you are welcome to -- well, Kathleen, we have to make sure there is notice issues here.

MR. KENNY: I think what we want to do is we want to continue this matter so that, in fact, we can avoid any kind of 45 day notice requirements.

MS. WALSH: Right.

CHAIRMAN DUNLAP: Is there an Association, I know WSPA was represented, and API, but are the rest of you in any kind of an Association?

Mr. Healy, are you in an Association?

MR. HEALY: No.

CHAIRMAN DUNLAP: So, you guys all speak independently?

BOARD MEMBER RIORDAN: They are inventors and

entrepreneurs.

CHAIRMAN DUNLAP: As the industry, you guys are welcome to bob your head up and down if you like this idea.

You like this idea. Okay.

That is what we will do. Thank you, for your commentary.

I'm grateful for it. We will keep the letters and the packages you sent us. We will make sure we, as homework, this Board, will make sure we go through all of that again.

Mike, we will look to you to get out some kind of communication to this group telling them what process and what meetings you are going to have and that kind of thing.

MR. KENNY: We will do that, and I think also, just simply for the record, what we will be doing then is continuing this matter until the July hearing, which I believe is on July thirtieth or twenty-ninth.

CHAIRMAN DUNLAP: Ron, I apologize to you.

You just got into town here, and we are surprising him, too.

BOARD MEMBER FRIEDMAN: There are at least two or three people, and me included, I would like to know the extent of the disincentive that appears to be imposed on component part makers who could make a major advance in this area.

I think that we want to know that, and maybe you could just encapsulate that for us when it comes back.

MR. KENNY: Dr. Friedman, I think that is a very reasonable question, and I think the same kind of question that has been going through several peoples minds, so we will

be happy to look at that.

MS. WALSH: Probably the way to proceed procedurally here would be to ask for a motion to continue the matter to July thirty-first, the Board meeting in July.

CHAIRMAN DUNLAP: Motion by Dr. Friedman, and seconded by Mrs. Riordan to hold this over to the July Board meeting.

Let me give a couple of staff directives here. I want some process relative to some meetings.

I think I want to see a chart given to the Board about the folks who have testified and supplied the written comments, what people want to see changed about your proposal, what your proposal is relative to their suggestions, so that we can see it on a matrix.

I want to acknowledge the folks that have come great distances to be here, the gentleman came from Chicago, I appreciate that. It is not an easy trip to make.

We will try to get as many of these things worked out from staff talking to you all rather than having you all fly back here in July.

I have a motion and a second.

Any discussion about we want to have?

Is everybody okay with this?

We will do a voice vote.

All of those in favor, say aye.

Any opposed?

We have one item remaining and that is Open Comment Period. This is a period in which we allow the public to address the Board on items that are not on the Agenda today.

We would ask you to limit your comments to five minutes or less individually. I would like it to be within the subject matter jurisdiction of the Board.

Does anyone want to testify or comment before the Board?

Mr. Kenny, is there anything else that the Board needs to consider?

MR. KENNY: Nothing more today.

CHAIRMAN DUNLAP: We will adjourn until tomorrow at eight o'clock.

Thank you.

(Thereupon the Air Resources Board meeting was adjourned at 3:00 p.m.)

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CERTIFICATE OF SHORTHAND REPORTER

I, VICKI L. MEDEIROS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing hearing was reported in shorthand by me, Vicki L. Medeiros, a Certified Shorthand Reporter of the State of California, and thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing nor in any way interested in the outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this first day of June, 1998.

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